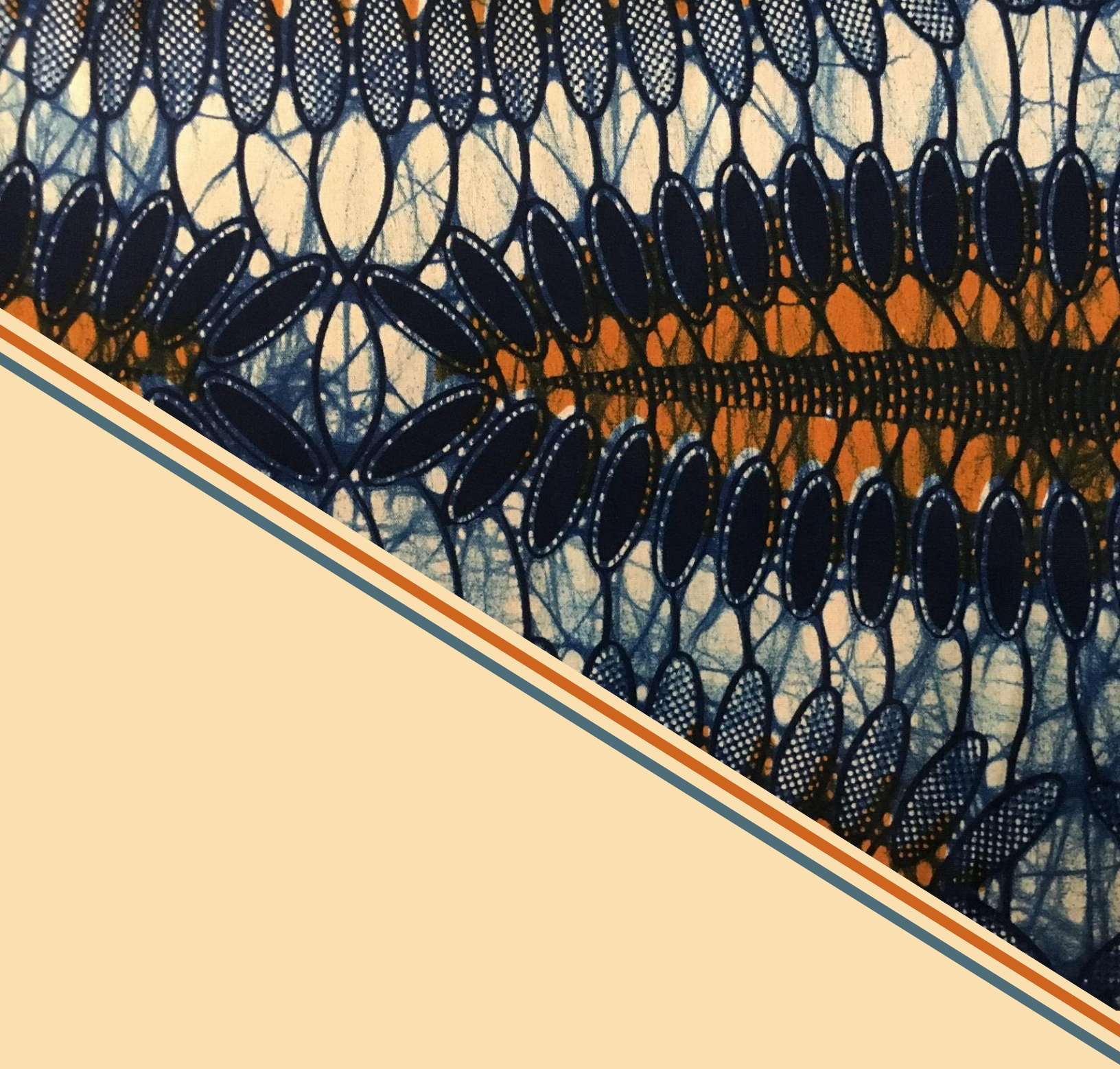


2016 Kigoma Reproductive Health Survey

Kigoma Region, Tanzania

National Center for Chronic Disease Prevention and Health Promotion
Division of Reproductive Health

Suggested citation

Centers for Disease Control and Prevention. *2016 Kigoma Reproductive Health Survey: Kigoma Region, Tanzania*. Atlanta, GA: Centers for Disease Control and Prevention; 2017.

2016 Kigoma Reproductive Health Survey
Kigoma Region, Tanzania

Partners

Tanzania Ministry of Health, Community Development, Gender, Elderly and Children

Kigoma Regional Government

Bloomberg Philanthropies and Fondation H&B Agerup

EngenderHealth

Vital Strategies and Thamini Uhai

AMCA Inter-Consult Ltd.

CDC Foundation

US Centers for Disease Control and Prevention

National Center for Chronic Disease Prevention and Health Promotion
Division of Reproductive Health

Table of Contents

Abbreviations

ACO	Assistant clinical officer
AMO	Assistant medical officer
ANC	Antenatal care
ASFR	Age-specific fertility rates
BOM	Billings Ovulation Method
CBD	Community-based distribution
CDC	Centers for Disease Control and Prevention
CEmONC	Comprehensive Emergency Obstetric and Neonatal Care
CHW	Community health worker
CI	Confidence interval
C-section	Cesarean section
CSPro	Census and Survey Processing System
DHS	Demographic and Health Survey
EA	Enumeration area
EmONC	Emergency Obstetric & Neonatal Care
GFR	General fertility rate
IPTp-SP	Intermittent prophylactic treatment with sulfadoxine-pyrimethamine
IUD	Intrauterine device
LAM	Lactational amenorrhea method
MCH	Maternal and child health
MOHCDGEC	Ministry of Health, Community Development, Gender, Elderly and Children
MoHSW	Ministry of Health and Social Welfare
RHS	Reproductive Health Survey
TBA	Traditional birth attendant

TFR	Total fertility rate
TZS	Tanzanian shillings
UNICEF	United Nations Children's Fund
VCT	Voluntary counseling and treatment
WHO	World Health Organization
WRA	Women of reproductive age

Key Findings and Conclusions

Family Planning

Key Findings	Conclusions

Women's **use of family planning in Kigoma Region has increased**.
• 19.9% of women in union were **using a modern method of contraception** in 2016, up from 15.6% in 2014, a relative increase of 28%.
• Among the different age groups, the largest increase in modern contraceptive use was among **women ages 25–29**, whose use almost doubled, from 13.8% to 26.6%.
• Most of the increase in current contraceptive use is due to **increased use of implants**, now used by 4.8% of women in union.
• The rate of modern contraceptive **use in Kigoma remains considerably lower** (19.9%) than for Tanzania as a whole (32.0%, DHS 2015).
	Especially in light of the large amount of unmet need for family planning found in the Kigoma Reproductive Health Survey(RHS), we expect that family planning use would likely increase further if services were made more available.
	• Services can be made more available by
	  ○ increasing the number of health staff who are *trained in family planning counseling and provision* (particularly in providing long-acting methods)
	  ○ *integrating family planning services with other health services (e.g., post-delivery, post-abortion care, immunization, well-baby)*.
	• To make long-acting methods more available, health staff could receive additional *training on counseling about, inserting, and removing contraceptive implants and intrauterine devices (IUD).*

Although almost all women ages 15–49 in Kigoma have heard of at least one method of contraception, they still **lack knowledge about contraceptive safety, effectiveness, and side effects**. • Only one-third of women (33.2%) think that implants and IUDs are effective, and only 31.8% think they are safe to use. • For all modern contraceptive methods, the majority of women indicated that they did not know whether the methods were safe or effective. The percentage who said they did not know increased since 2014, while the percentage who thought they were unsafe or ineffective decreased. • The leading reason women in union gave for not using contraception was **fear of side effects**, both among women who had previously used contraception and those who had never used it.	Women of reproductive age need information on contraceptive safety, effectiveness, and side effects (and how to manage them) for all available methods. • Informational campaigns could *raise awareness about the safety and effectiveness of methods*, particularly of long-acting methods. This information could be provided through outreach service days, and through community-based education and messaging. • During *counseling*, clients should be provided with full information on the effectiveness and safety of their chosen method, as well as on the side effects and how to manage them. • Service providers may need *additional or refresher training* on these topics so that they can accurately and confidently provide information and services.
• The **injectable remains the most commonly used contraceptive method** among women in Kigoma (2014: 8.9% of women in union, 2016: 8.6%). • **Use of the implant has increased rapidly** (2014: 1.8%, 2016: 4.8%), thus increasing the proportion of women with long-lasting contraceptive protection. • Use of **the IUD**, another highly effective, long-acting reversible method, is still very low (2014: 0.3%, 2016: 0.7%).	• Providers can inform women who are interested in family planning or who use less effective methods (such as the injectable and the pill) about the *benefits of the longer-acting methods* (implant and IUD). • *Additional or refresher training for providers on long-acting methods* and how to provide them would ensure that providers are well-equipped to meet the rising demand for these methods. • Rapidly increasing rates of contraceptive use, such as of the implant, means that health staff need to *monitor their contraceptive supplies* particularly closely, monitor the rate at which they're using those supplies, and request supplies early enough so that they do not run out.

Family Planning (Continued)

Key Findings	Conclusions

• Between 2014 and 2016, the unmet need for contraception (i.e. fecund married women at risk of unintended pregnancy because they are not using contraceptive methods) decreased slightly (from 39.2% to 36.5%), mostly as a result of increased use of modern methods.
  • Among women in union, the **unmet need for contraception for spacing births decreased by 15%**, from 32.3% in 2014 to 27.6% in 2016.
  • The total **rate of unmet need for contraception to prevent unintended pregnancies remained high** among women with no or low education, low socioeconomic status, four or more living children, and those in rural areas.
	Several approaches can be used to help more women in Kigoma avoid unplanned pregnancies.
	• *Information campaigns* can provide information on contraceptive methods, their benefits, and where to obtain services.
	• *Integrating family planning counseling and services into routine reproductive health care* would make contraception more widely and easily available.
	• *Strengthening the family planning delivery skills of dispensary staff in rural areas* would make these services more accessible for rural residents.

Increasingly, **women are obtaining contraceptives from primary health care services.** • Among women currently using modern contraceptives, **more women in 2016 used dispensaries as their source of injectables** (67.5% in 2016 vs. 59.4% in 2014) and implants (58.6% in 2016 vs. 46.9% in 2014). • **Rural women** in particular mentioned dispensaries as their primary source (70.6% in 2016, up from 61.1% in 2014).	• *Additional training for dispensary staff, particularly in rural areas*, on providing contraceptive counseling and services (particularly for long-acting methods) and in managing and ordering contraceptive supplies would help staff to meet the increasing demand for family planning.
There is **increased intention to use family planning in the future.** • Among fecund non-users, 40.3% in 2016 said they intended to use contraception in the future, up from 37.8% in 2014. • The preference for **injectables** among these "future users" decreased (47.0% in 2014 chose the injectable as their preferred method, vs. 40.9% in 2016). • At the same time, the preference for **implants** increased (from 12.6% in 2014 to 20.8% in 2016), suggesting a continuing surge in the implant's popularity.	Increases in rates of contraceptive use should be paralleled with increased availability of supplies and trained providers. • *Family planning availability should be increased by integrating it* with antenatal, delivery, post-abortion, and postpartum care services. • *Additional contraceptive supplies and training in contraceptive logistics and management* may be needed to keep up with the demand so that women who come for contraceptive services are not turned away due to stock-outs. • *Scaling up training of providers* in providing family planning services, with special emphasis in implants insertion and removals would help facilities meet the growing demand.

Pregnancy Health

Key Findings	Conclusions
• **The levels and patterns of antenatal care** (ANC) remained relatively unchanged from 2014. • As in the 2014 RHS, almost all women received at least one ANC check-up (98.7%), but **few received it the first trimester** (15.6%). • The proportion of women with the recommended **four or more ANC visits** remained basically unchanged at 43.1%.	• If *providers inform women who come for ANC of the need for and health benefits of receiving ANC starting in the first trimester*, the women may be more likely to come earlier for care in their next pregnancy, and perhaps to encourage family and friends to do so. (First-time pregnant and high multiparous (high number of pregnancies) women are at higher risk of complications and should be particularly target for starting ANC early.) • Similarly, providers should *encourage women to* come *for at least four ANC visits*.
• The 2016 RHS shows that **more women were told about signs of pregnancy complications** during ANC visits (51.6% in 2014 vs. 58.0% in 2016) than in 2014. • **More women were advised to develop a birth plan** (78.4% in 2014 vs. 86.9% in 2016). • A **smaller proportion of women were getting their blood pressure checked** during ANC (51.1% in 2014 vs. 46.0% in 2016).	• Providers may benefit from receiving additional training on the *importance of checking the blood pressure* of pregnant clients to detect signs of life-threatening hypertensive disorders and for other signs of pregnancy complications. • Providers may also need *training on informing women about the danger signs of pregnancy complications* and what to do if they occur, since early recognition increases the chance of receiving potentially life-saving treatment in time.

Labor, Delivery, and Postpartum Care and Counseling

Key Findings	Conclusions

• The percentage of **facility-based deliveries increased by 26% between 2014 and 2016** (from 47.1% to 59.6%). If the same rate of increase is maintained, as many as 75% of deliveries will take place in health facilities by 2018.
• The percentage of **home deliveries decreased** by 12.3 percentage points since 2014.
• Based on the 2016 RHS, the proportion of **births reportedly assisted by a skilled birth attendant** increased each year, rising from 55.7% in 2014 to 59.1% in 2015, and 62.8% in 2016.
• **Births following referrals from another health facility doubled** since the baseline survey: 12.0% to 23.8%.
• **About 5% of women deliver by C-section**, which falls within the optimal rage of 5%-15% recommended by WHO. Between 2014 and 2016, the C-section rate in Kigoma increased by 46% (from 3.5% to 5.1%).
	• Good progress has been made toward the Project's goal of 75% of births having skilled birth attendance by 2019. Efforts should continue to encourage more women to deliver in health facilities. At the present 2-year increase rate (26%), reaching the target sooner is likely.
	• Supportive strategies to maintain progress may include ensuring birth preparedness and complication readiness, understanding of the advantages of facility-based care, and improving access to facilities for appropriate care through:
	  ○ *enhanced counseling during ANC*
	  ○ *community-based health messaging*.
	  ○ *referrals*
	  ○ *provision of basic and comprehensive emergency obstetric care*

Labor, Delivery, and Postpartum Care and Counseling (Continued)

Key Findings	Conclusions
• The proportion of women who reported receiving a **postnatal checkup** within 42 days of birth increased significantly between 2014 and 2016 (from 12.5% to 17.2%) but remains far below the national level of 34% and very low by international standards. • 38.9% of women reported **complications from pregnancy and delivery during the postnatal period**, such as pelvic pain (22.2%), high fever (13.8%), and painful urination (14.5%). Of the women receiving a postnatal checkup within 42 days, 45.1% reported any complications. Thus, women should receive a postnatal checkup within 42 days of birth. • The proportion of **children receiving a postnatal checkup within 2 months dropped** from 85.6% in 2014 to 79.9% in 2016.	• *During antenatal care, providers can stress the importance of a postnatal checkup* for both the mother and the infant. • When a woman brings her infant for a checkup, the provider can ask her if she has had one herself, and provide it if not.
• **Family planning counseling during antenatal care is high** and further increased from 82.0% in 2014 to 87.9% in 2016. • Conversely, receipt of **family planning advice at the time of delivery in a health facility is low (6.4%).** • Receipt of family planning services during postpartum care visits more than doubled since 2014 (from 28.1% to 73.9% of mothers receiving postpartum care), however few women (17.2%) attend postpartum care. • Among all women with recent births, 75.7% reported that they had been counseled about contraceptive use either during ANC, delivery or postpartum care.	• Given that medical care may not be convenient for many women, providers can *use the opportunity at delivery to inform and offer family planning* to new mothers while they are at the facility.
• The 2016 RHS added a question about whether the respondent had a **companion or support person** with her when she gave birth at a facility. The overall **percentage of women with companions during labor is low** (23.5%), and the proportion is even lower during delivery (6.6%).	• Having a support person or companion present during labor, delivery, and/or immediately postpartum may help to improve a woman's birth experience and may impact health outcomes. Facilities and providers may need *additional information and guidance on the benefits assistance companions can provide* and how to gain their assistance in caring for a woman in labor.

Infant, Child, and Under-5 Mortality

Key Findings	Conclusions

• **Under-5 mortality declined** in Kigoma between the periods of 2006–2011 and 2011–2016 (from 70 to 52 deaths per 1,000 live births), but overall child mortality rates remain high.
• **Infant mortality** declined from 43 to 32 deaths per 1,000 live births and **child mortality** declined from 28 to 20 per 1,000 survivors to age 1.
  ◦ The decline in infant mortality is primarily due to declines in **postneonatal mortality** (from 23 to 14 deaths per 1,000 live births).
  ◦ There was little change in **neonatal mortality** (from 20 to 18 per 1,000 live births).
• **The highest infant and under-5 morality rates** occurred when mothers were younger than 20 years or were 30–49 years of age, when the previous birth intervals were less than 24 months or over 48 months, and when it was a 1st birth order and 7+ birth order.
	• Mortality would most likely be decreased by *improving the quality of care* for women who are
	  ◦ less than 20 years of age,
	  ◦ 30 or older,
	  ◦ have very short and very long birth intervals,
	  ◦ are having their first child, or
	  ◦ have already had many children.
	• *Reducing unintended pregnancies* among these women might also help reduce mortality.
	• Perinatal health could be improved by *improving the quality of care in late pregnancy, labor, and delivery and in the early neonatal period.*

Early Sexual Activity

• Among women ages 15–24 who were not in union (either formal or informal) at the time of first sex, despite the fact that very few wanted to become pregnant at that time, the **overwhelming majority (89.3%) did not use contraception at first intercourse.** This proportion changed little since 2014 (89.5%). • Many young women who were not in a union at the time of their first sexual intercourse reported that they did not use contraception at that time **because they did not know about it, sex was not expected, or they did not think it was necessary.**	• The lack of information among young women about contraception and the need to use it puts them at considerable risk for an unintended pregnancy. This suggests that more *education on pregnancy risk and contraception* is needed, and it would be beneficial for young women to receive that education before age 15.
• Among young women who were not in union at the time of their first sexual intercourse, more than half (57.4%) reported that they **wanted to have sex at that time.** • However, about one-quarter (27.2%) **did not want sex at that time** but reported that it happened anyway. • Moreover, 14.3% of young women who were not in union the first sexual encounter said that **sex was forced**. • Compared with 2014, the **overall situation of wantedness of first sex has improved**; a greater proportion of the young women wanted to have sex at that time (up from 50.3% in 2014) and there were decreases in the proportions that did not want it but it happened anyway (2014: 32.4%) or were forced to (2014: 16.0%).	• Over two-fifths (41.5%) of young women said they were pressured or forced into having their first sexual intercourse when they did not want to. Thus, it would be advisable to provide all young people (including and especially young men) with *training on respectful sexual encounters* and on the right of every person to refuse sexual activity. In addition, providing young women with *training on negotiation skills*, might put the young women in a better position for avoiding unwanted sex.

Key Reproductive Health Indicators for Kigoma Region	RHS 2014	RHS 2016
	Kigoma	Kigoma
Fertility		
Currently married/ in union	63.7%	63.3%
Currently pregnant	10.4%	10.6%
Total fertility rate[a]	6.7	6.5
Family Planning		
Knows about any contraceptive methods	96.3%	94.3%
Knows about any modern contraceptive method	96.0%	94.2%
Currently using any contraceptive method (women in union)	20.6%	27.1%
Currently using a modern method (women in union)	15.6%	19.9%
Currently using pill (women in union)	1.4%	0.7%
Currently using injectable (women in union)	8.9%	8.6%
Currently using IUD (women in union)	0.3%	0.7%
Currently using female sterilization (women in union)	2.1%	2.8%
Currently using condom (women in union)	0.9%	1.0%
Currently using Implant (women in union)	1.8%	4.8%
Currently using periodic abstinence (women in union)	2.2%	2.9%
Want no more children (women in union)	19.4%	22.5%
Want to delay birth at least 2 years	51.7%	49.8%
Ideal family size	6.5	6.3
Child mortality rates per 1000 live births (previous 5 years)		
Perinatal mortality [b]	29	31
Neonatal mortality [b]	16	18
Infant mortality [b]	30	32
Under–five mortality [b]	56	52
Maternal and Perinatal Health		
At least 4 Antenatal Care Visits	42.1%	43.1%
Delivered in health facility	47.1%	59.6%
Delivered by C–section	3.5%	5.1%
Delivered by skilled provider	48.3%	58.7%
Postnatal checkup (mother)	12.5%	17.2%

[a] Average number of live births per woman if a group of women conformed to the observed age-specific fertility rates over their reproductive age span

[b] per 1,000 live births for 5-year period preceding survey

Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Chapter 1: Introduction

Background and Purpose

The Ministry of Health, Community Development, Gender, Elderly and Children (MOHCDGEC) in Tanzania implements national strategies to reduce maternal deaths and improve reproductive health by strengthening antenatal care provision, expanding emergency obstetric services, and increasing both knowledge and use of contraception.

The ministry has also collaborated with multiple nongovernmental partners to achieve shared goals for improving reproductive health. For more than 10 years, Bloomberg Philanthropies has supported efforts to improve maternal and newborn health by upgrading health facilities to better provide comprehensive emergency and neonatal care (CEmONC) services in Kigoma Region through the *Initiative for Maternal and Reproductive Health in Tanzania*. More recently, the Initiative's activities have included integrating family planning and comprehensive post-abortion care into various health facilities.

Evaluating the impact of such interventions is vital to achieving Tanzania's reproductive health goals, including reducing maternal mortality. Change over time (or the lack of change) in important indicators can suggest to program planners which initiatives are having an effect, and which may need to be adjusted. The 2014 Kigoma Reproductive Health Survey (RHS) provided a baseline assessment of demographic indicators related to maternal and newborn health outcomes, knowledge and use of maternal health services, knowledge and use of contraception, and exposure to health promotion programs.[1] This 2016 mid-term RHS survey assesses the same indicators to determine where progress has been made on key reproductive health indicators thus far, and to suggest where additional efforts might be needed to reach the Initiative's goals. A final RHS survey is planned for 2018 to assess the progress made in improving reproductive health in Kigoma since the start of the initiative.

Kigoma, Western Zone, and Tanzania

The 2016 Kigoma RHS was conducted throughout Tanzania's Kigoma Region. One of 30 regions in Tanzania, Kigoma is located in the northwest corner of the country, bordering Lake Tanganyika, the Democratic Republic of Congo, and Burundi. It covers 45,066 square kilometers, 27% of which consist of arable and grazing land; the remaining area consists of forest and water. According to the 2012 National Census of Population and Housing, Kigoma Region had a population of 2,127,930 with 374,479 households, an average household size of 5.7 people, and an annual population growth rate of 2.4%. Approximately 83% of households in Kigoma are classified as rural.[2]

In 2010 and 2015, Demographic and Health Surveys (DHS) were conducted for the country of Tanzania as a whole, with findings presented down to the zone level.[3, 4] The Tanzania DHS was not designed to be representative at the regional level; thus, the RHS collects region-specific data for Kigoma.

The DHS surveys indicate that fertility, contraceptive use, access to obstetric care services, and mortality rates vary by zone. The Western Zone has higher fertility rates and lower contraceptive use rates and smaller proportions of deliveries in health facilities than the country as a whole. Kigoma Region has lower fertility rates, higher contraceptive use rates, and a larger proportion of deliveries in health facilities than does the Western Zone as a whole.

Survey Objectives

The objectives of the 2016 mid-term survey of Kigoma Region were to measure changes from baseline as well as to establish mid-term estimates for the following reproductive health topics:

1. Knowledge and use of key maternal health services, including family planning, antenatal care, delivery care, and postnatal services among women of reproductive age.
2. Contraceptive prevalence rates and related parameters.
3. Key demographic indicators (geographic location, household wealth, education, age) that are affected by the use of family planning and maternal and newborn services.
4. Reproductive health knowledge, attitudes, and behavior of young women aged 15–24 years, and to assess their exposure to sex education and family planning health promotion programs.

Survey Methods

Similar to the 2014 Kigoma RHS, the 2016 RHS is a regionally representative probability sample with face-to-face interviews of women aged 15–49 years. The 2016 RHS survey is the mid-term survey designed to measure changes from the baseline survey as well as several new questions that were added in 2016. The survey was conducted from July to September 2016.

Sample Design

The 2016 Kigoma RHS followed a parallel survey design to the 2014 RHS. The 2016 survey was designed to measure changes in reproductive health indicators from the baseline survey, as well as to measure sub-population estimates of selected characteristics such as urban and rural women. Due to the short time interval (approximately 2 years) between the surveys, the target sample size was increased from 4,134 interviews of women 15–49 years in 2014 to 6,475 in 2016. This was done to capture more births during the time period. The 2016 RHS used the 2014 selected enumeration areas (EA) as a basis for the sample, which provided increased precision when estimating statistical change between the two survey years.

For the 2016 RHS, the first stage of sampling consisted of selecting 120 EAs. If the size of the selected 2014 EA was equal to or larger than 90 households, then the same enumeration area was sampled. If the 2014 selected enumeration area contained fewer than 50 households, then an adjacent enumeration area was selected using the 2012 National Census of Population and Housing as a sampling frame.

For the second stage of sampling, field workers visited each enumeration area and mapped and listed all households there to create a household sampling frame. The household list was used to randomly select households from a selected EA. If there were more than 55 households listed in an EA, then one household was randomly selected as a starting point and then each household was visited sequentially using the listing. If a selected EA had less than 55 households, households along the road of an adjacent EA were selected to maintain sample size. As in the 2014 RHS, all women aged 15–49 in selected households were eligible to be interviewed. Only those who consented to participate were interviewed. The sampling weights were based on the inverse probability of selection at each sampling stage. No post-stratification calibration was done for this survey.

As in the 2014 RHS, maps of each selected EA were created based on the 2012 Census from the National Bureau of Statistics.

Response Rate

For the 2016 RHS, a total of 6,630 households were interviewed, with a response rate of 97.5%. Of the 7,506 women (15–49 years of age) eligible to be interviewed, 93.6% had a completed questionnaire (Tables 1.2, 1.3).

Survey Instruments

The 2014 RHS survey questionnaires were modified for use in the 2016. As in 2014, two Swahili questionnaires were administered – a household questionnaire and a questionnaire for individual women 15–49 years of age. For the household questionnaire, no question was changed from 2014, but additional responses were added for two questions For the individual woman questionnaire, the majority of the questions remained the same. Edits were made to some existing questions to improve clarity either in the way the question was asked or in the instructions to the interviewer. A few questions were removed, because they had very few respondents or the question provided little useful information. Additional questions and responses were added in Section IV "Health Care for Births" to get more information about facility access and the barriers to going to a facility. Also in Section IV, all questions were asked for the last three births since January 2014, instead of for only the most recent birth since January 2014. In Section VII, "Attitudes towards Contraception and Childbearing", three questions were added to obtain more client information on the Wazazi Nipendeni campaign.

Pilot Testing and Survey Team Training

For the 2016 RHS, survey interviewer training was conducted from July 15th to July 25th. Similar to 2014, the training consisted of lectures, discussions, and role playing opportunities. Subjects covered in the training were survey questions, interviewing techniques, principles and practices of confidentiality, quality assurance, survey logistics, and GPS device usage.

Data Collection

Seven teams were selected for the survey with each team consisting of a supervisor, a data quality controller, and five to six interviewers. Survey field work commenced on July 26th and ended September 9th 2016. Supervisors were responsible for checking the work of the interviewers and ensuring that the team visited all selected households within an EA.

Before administering household questionnaires, interviewers explained to a member of each household what the study was about and obtained permission to conduct the household interview. Similarly, the study was explained to the women aged 15–49 years who lived in the household and who were at home. They were asked to participate and their verbal and written consent was obtained. Interviewers then administered the questionnaires confidentially to each woman who consented. As in 2014, individual interviews took 30–60 minutes to complete.

Supervisors reviewed the completed survey questionnaires in the field to ensure completeness, and then sent them to Kigoma town for daily data entry. Data entry clerk supervisors recorded receipt of the questionnaires from the field and assigned the questionnaires to the data clerks, who entered all survey responses into Census and Survey Processing System (CSPro) version 5.0 (United States Census Bureau). All completed and entered questionnaires were stored in a

secure location in the data entry room in Kigoma and were transported to Dar es Salaam at the end of field data collection activities to be stored in a secure location.

Data cleaning took place in Kigoma during the second and third weeks of October 2016 and all analysis was conducted using SAS statistical software, version 9.3 (SAS Institute, Inc., Cary, North Carolina).

Summary Results

A summary table of key reproductive health indicators from the 2010 and 2015-2016 Tanzania DHS, and the 2014 and 2016 Kigoma RHS is in Table 1.1. Confidence intervals are provided for the RHS indicators. Household response rates and individual women response rates for the 2016 Kigoma RHS are provided in Tables 1.2 and 1.3, respectively.

Tables

Table 1.1: Key Reproductive Health Indicators Table for Tanzania, the Western Zone, and Kigoma Region

	DHS 2010		DHS 2015–2016		RHS 2014	RHS 2016
	Tanzania	Western Zone	Tanzania	Western Zone	Kigoma**	Kigoma**
Fertility						
Currently married/ in union	63.2%	68.0%	61.9%	68.8%	63.7% (61.4%–65.9%)	63.3% (61.3%–65.2%)
Currently pregnant	9.6%	12.9%	8.6%	11.8%	10.4% (9.3%–11.6%)	10.6% (9.7%–11.6%)
Total fertility rate[a]	5.4	7.2	5.2	6.7	6.7 (6.3 –7.0)	6.5 (6.2–6.8)
Family planning						
Knows about any contraceptive methods	98.0%	98.9%	99.1%	98.6%	96.3% (95.3%–97.0%)	94.3% (93.3%–95.2%)
Knows about any modern contraceptive method	97.9%	98.9%	97.1%	98.6%	96.0% (94.9%–96.8%)	94.2% (93.2%–95.1%)
Currently using any contraceptive method (women in union)	34.4%	20.1%	38.4%	22.8%	20.6% (18.1%–23.4%)	27.1% (24.6%–29.9%)
Currently using a modern method (women in union)	27.4%	14.6%	32.0%	19.3%	15.6% (13.3%–18.2%)	19.9% (17.6%–22.3%)
Currently using pill (women in union)	6.7%	2.6%	5.5%	2.4%	1.4% (1%–2%)	0.7% (0.4%–1.1%)
Currently using injectable (women in union)	10.6%	5.4%	12.6%	8.3%	8.9% (7.4%–10.8%)	8.6% (7.4%–10%)
Currently using IUD (women in union)	0.6%	0.5%	0.9%	0.3%	0.3% (0.1%–0.8%)	0.7% (0.4%–1.1%)
Currently using female sterilization (women in union)	3.5%	3.0%	3.4%	3.0%	2.1% (1.6%–2.8%)	2.8% (2.2%–3.5%)
Currently using condom (women in union)	2.3%	1.9%	2.4%	1.7%	0.9% (0.5%–1.5%)	1.0% (0.7%–1.3%)
Currently using Implant (women in union)	2.3%	0.3%	6.7%	3.7%	1.8% (1.4%–2.5%)	4.8% (3.9%–6%)
Currently using periodic abstinence (women in union)	3.1%	1.8%	3.7%	1.2%	2.2% (1.6%–2.9%)	2.9% (2.3%–3.6%)
Want no more children (women in union)	29.7%	20.1%	29.2%	23.0%	19.4% (17.5%–21.4%)	22.5% (20.9%–24.2%)
Want to delay birth at least 2 years	43.5%	52.5%	42.2%	43.1%	51.7% (49.1%–54.3%)	49.8% (47.6%–51.9%)
Ideal family size	4.9	5.8	4.7	5.9	6.5 (6.38–6.68)	6.3 (6.16–6.44)
Child mortality rates per 1000 live births (previous 5 years)						
Perinatal mortality	36	29	39	32	29 (23–36)	31 (27–35)
Neonatal mortality	26	25[b]	25	25[b]	16 (10–21)	18 (15–21)
Infant mortality	51	56[b]	43	40[b]	30 (22–37)	32 (28–37)
Under–five mortality	81	98[b]	67	69[b]	56 (47–65)	52 (46–58)
Maternal and Perinatal Health						
At least 4 ANC Visits	42.8%	N/A	50.7%	31.5%	42.1% (38.5%–45.7%)	43.1% (39.8%–46.6%)
Delivered in health facility	50.2%	36.5%	62.6%	49.7%	47.1% (41.6%–52.6%)	59.6% (54.4%–64.6%)
Delivered by C–section	4.5%	2.8%	5.9%	3.2%	3.5% (2.9%–4.3%)	5.1% (4.3%–5.9%)
Delivered by skilled provider	50.6%	37.5%	63.7%	51.1%	48.3% (42.8%–53.7%)	58.7% (53.5%–63.6%)
Postnatal checkup (mother)	35.0%	29.0%	36.4%	32.3%	12.5% (10.6%–14.7%)	17.2% (14.9%–19.8%)

[a] average number of live births per woman if a group of women conformed to the observed age-specific fertility rates over their reproductive age span

[b] per 1000 livebirths for 10-year period preceding survey.

** 95% Confidence Intervals in brackets.

Sources: 2010, 2015–2016 **Tanzania Demographic Health Survey**; 2014, 2016 Kigoma Reproductive Health Survey.

Table 1.2: Household Response Rates for 2016 Kigoma Reproductive Health Survey

	Households Responding		
	Urban	Rural	Total
Completed	97.6	97.4	97.5
No household member at home or no competent respondent at home at time of visit	1.1	1.3	1.3
Entire household absent for extended period of time	0.2	0.5	0.5
Household refused	0.0	0.1	0.0
Dwelling vacant or address not a dwelling	0.2	0.3	0.3
Dwelling destroyed	0.4	0.0	0.1
Dwelling not found	0.2	0.1	0.2
Other	0.1	0.3	0.2
Total	100.0	100.0	100.0
Number of cases (unweighted)	1,228	5,402	6,630

Source: 2016 Kigoma Reproductive Health Survey.

Table 1.3: Woman Response Rates for 2016 Kigoma Reproductive Health Survey

	Individual Women Responding		
	Urban	Rural	Total
Completed	91.8	94.0	93.6
Not at home	4.1	2.8	3.1
Postponed	0.2	0.0	0.0
Refused	0.1	0.0	0.0
Partly completed	0.1	0.1	0.1
Incapacitated	0.9	0.7	0.7
Other	2.8	2.4	2.5
Total	100.0	100.0	100.0
Number of cases (unweighted)	1,554	5,952	7,506

Source: 2016 Kigoma Reproductive Health Survey.

References

1. Centers for Disease Control and Prevention. 2014 Kigoma Reproductive Health Survey: Kigoma Region, Tanzania. Atlanta, GA: Centers for Disease Control and Prevention; 2015. https://www.cdc.gov/reproductivehealth/global/publications/surveys/africa/kigoma-tanzania/2014-kigoma-reproductive-health-survey_tag508.pdf.

2. National Bureau of Statistics (NBS), Office of Chief Government Statistician. 2012 Population and Housing Census: Population Distribution by Administrative Areas. Dar es Salaam and Zanzibar, Tanzania: NBS, Office of Chief Government Statistician; 2013.

3. The United Republic of Tanzania NBS, ORC Macro. Tanzania Demographic and Health Survey 2010. Dar es Salaam, Tanzania: National Bureau of Statistics, ORC Macro; 2011.

4. Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC), [Tanzania Mainland], Ministry of Health (MoH) [Zanzibar], National Bureau of Statistics (NBS), Office of the Chief Government Statistician (OCGS), and ICF International 2016. Tanzania Demographic and Health Survey and Malaria Indicator Survey (TDHS-MIS) 2015-16. Dar es Salaam, Tanzania, and Rockville, Maryland, USA: MoHSW, MoH, NBS, OCGS, and ICF International.

Chapter 2: Households, Women, and Births since January 2014

The 2016 Kigoma RHS assessed reproductive health outcomes for women of reproductive age (15–49 years). To provide context for these outcomes, this chapter summarizes the basic characteristics of sampled households, respondents, and births since January 2014. In this report, key indicators are stratified according to these characteristics.

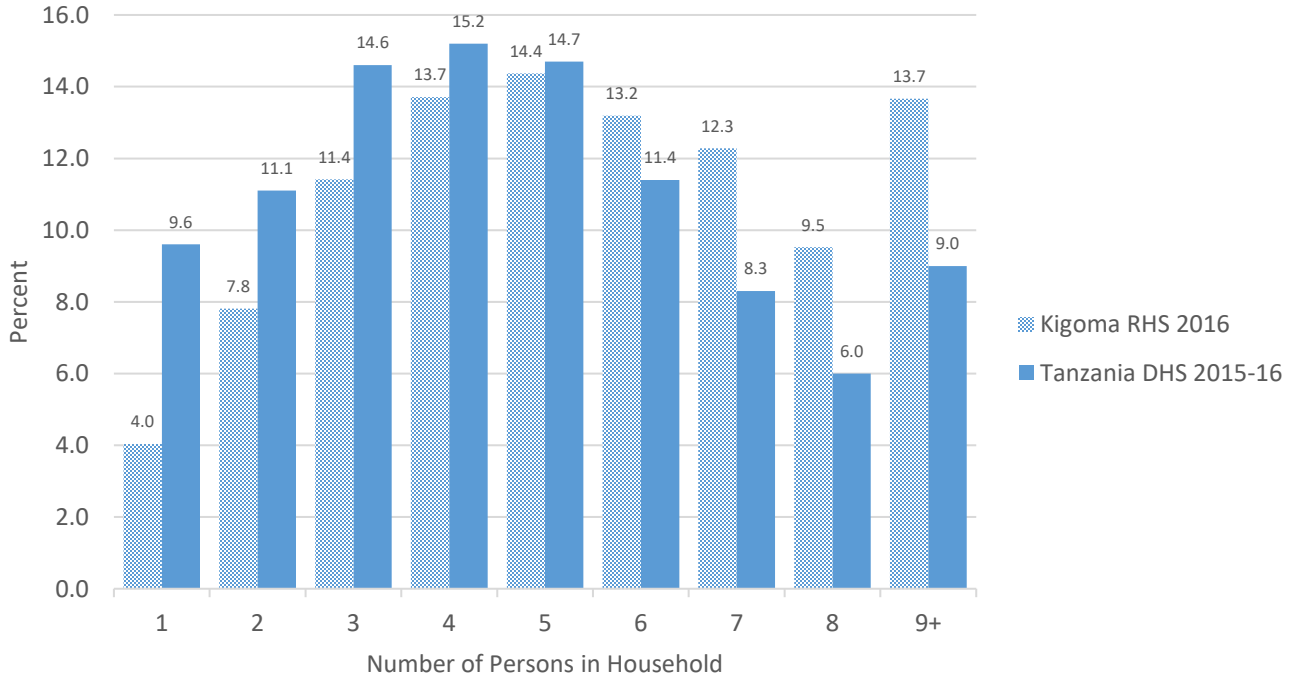
Household Characteristics

The 2016 RHS used the same definition of household as the 2014 RHS: A person or group of persons who usually live together in the same dwelling and share food. The Household Questionnaire collected information on household composition, amenities, and goods.

Household Members and Eligible Women

- The total number of people within the sampled households was 36,194. The **average household size** increased from 5.4 in the 2014 RHS to 5.6 in the 2016 survey. In the selected households, a total of 7,506 women were eligible to be interviewed, for an average of 1.2 women per household. The distribution of household size continues to show that Kigoma Region has a larger proportion of households with six or more persons than does Tanzania as a whole (49% vs. 35%, respectively) (Figure 2.1).[1]

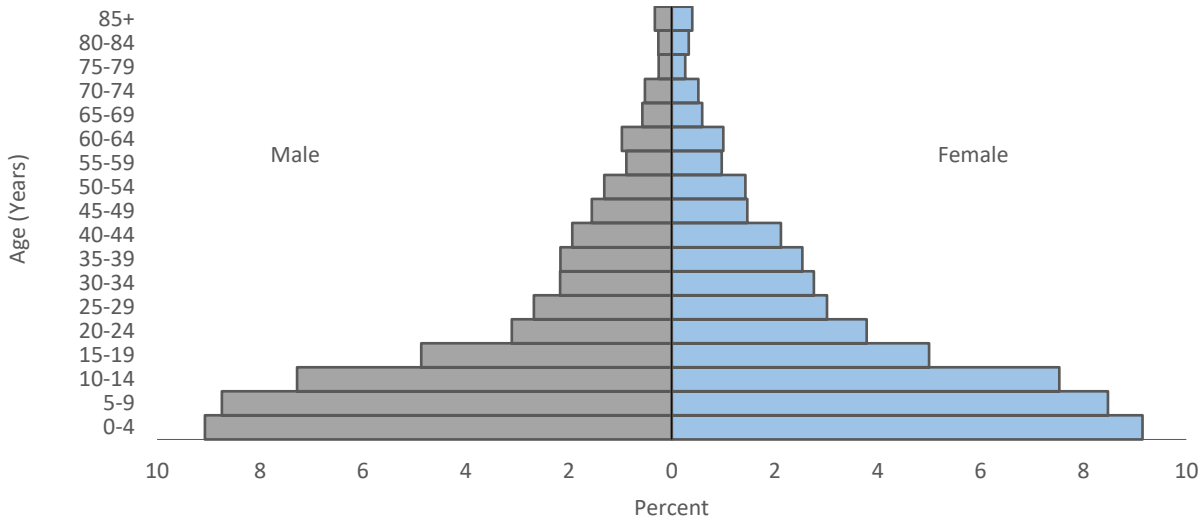
Figure 2.1: Household Size, Kigoma Region vs. Tanzania (Percent Distribution)



Source: 2016 Kigoma Reproductive Health Survey, 2015–2016 Tanzania Demographic Health Survey.

- Similar to the 2014 RHS, 82% of the Kigoma population lived in **rural** areas.
- As expected, the **age and sex distribution** again showed a wide base which indicates a high recent fertility and a large number of youth relative to the number of adults in the population (Figure 2.2).

Figure 2.2: Surveyed Household Population in Kigoma Region, by Age and Sex



Source: 2016 Kigoma Reproductive Health Survey.

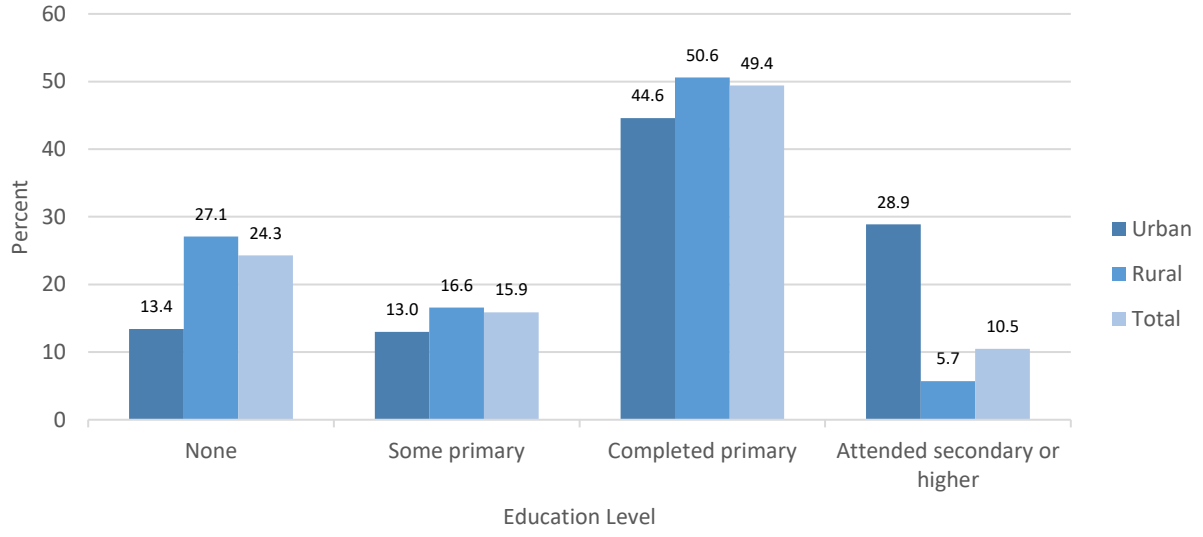
Household Assets

- Households with **electricity** increased from 10.1% in 2014 to 18.4% in 2016. **Cell phone** ownership increased slightly from 57.4% in 2014 to 60.9% in 2016. The majority (92.0%) of households still use a pit latrine as their primary **toilet facility**. In rural areas, 46.4% of households still obtain their **water** from surface water (Table 2.1).

Characteristics of Respondents

- Similar to the 2014 RHS, almost a quarter (24.2%) of the women were 15–19 years of age, and 60.4% of women were literate (Table 2.2). More women in urban as compared to rural areas attended secondary or higher education (28.9% vs. 5.7% respectively). In addition, the percent of woman with no education in urban areas was half of that of rural areas (13.4% vs. 27.1%, respectively) (Figure 2.3). Using a wealth tercile classification similar to the 2014 RHS, in 2016 the great majority of women in urban areas (83.1%) were classified as being in the highest wealth tercile (compared with only 24.6% of women in rural areas), and very few women in urban areas (7.6%) were in the "Low" wealth category, compared to 37.3% of women in rural areas (Table 2.3).

Figure 2.3: Educational Attainment of Women Aged 15–49 Years, by Urban/Rural Residence, Kigoma Region (Percent Distribution)

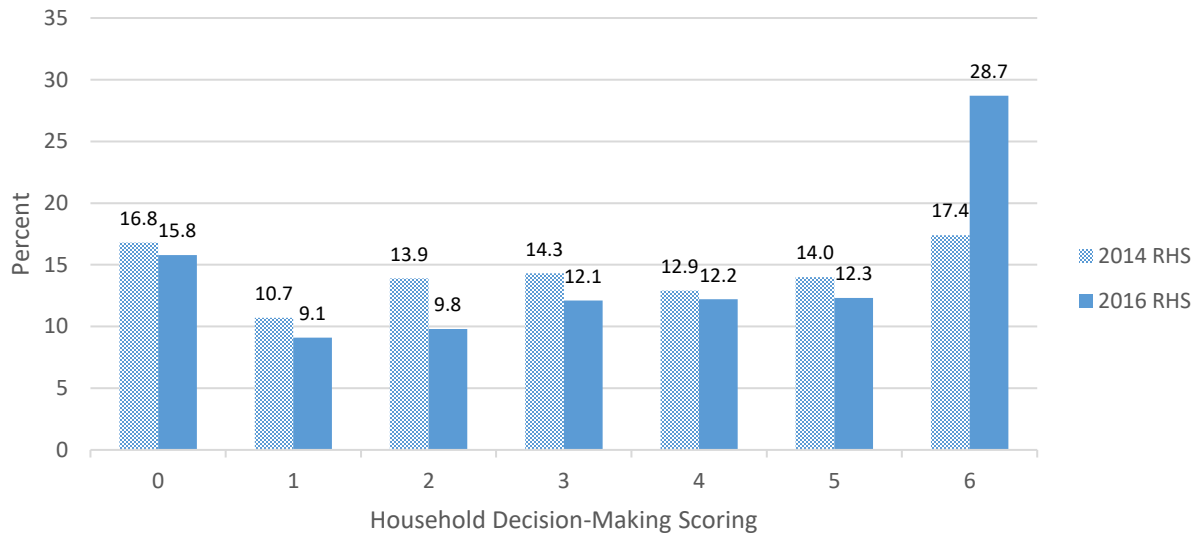


Source: 2016 Kigoma Reproductive Health Survey.

- The **economic empowerment** index was created using a set of five indicator questions about assets. The index was calculated by summing the scores, resulting in a range from 0, indicating little control of assets, to 5, indicating the greatest control of assesst.[2] Categories 4 and 5 were combined due to small number of people in category 5. The index remained low in 2016, with most women having an index score of 0 or 1 (53.5% and 26.5%, respectively (Table 2.4). The proportion of women with an index score of 0 increased from 47.8% in 2014 to 53.5% in 2016. Women's ownership of assets that could generate income dropped from 14.5% in 2014 to 7.9% in 2016. This suggests that fewer women in Kigoma Region had economic assets in 2016 than in 2014.

- As in the 2014 RHS, a woman's autonomy was measured using a **household decision-making** index, which is calculated from six questions about who is responsible for making specific household decisions.[3] A score of 1 was assigned to each decision where either the respondent was responsible herself or she was jointly responsible with her husband/partner; otherwise a score of 0 was assigned. The index was calculated by summing the scores, resulting in a range from a low of 0, indicating little empowerment, to 6, indicating very high empowerment. The percentage of women with a score of six increased from 17.4% in 2014 to 28.7% in 2016, suggesting that more women have more control over household decisions. (Table 2.5; Figure 2.4).

Figure 2.4: Household Decision-Making Index, Scale 0 (Low) to 6 (High), Women Aged 15–49 Years, Kigoma Region, By Survey Year (Percent Distribution)



Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

- **Personal cell phone ownership** by women aged 15–49 showed no change, with a value 33.4% in 2014 and 33.4% in 2016 (Table 2.6). **Radio** listening has declined; the percentage of women who listen to the radio daily dropped by 11.9 percentage points (from 33.8% in 2014 to 21.9% in 2016), while the percentage of women who do *not* listen to the radio increased by 12.4 percentage points (from 33.5% in 2014 to 45.9% in 2016). **Television** watching habits showed little change (Table 2.6).

Characteristics of Births since January 2014

- Similar to the 2014 distribution, most of the births since January 2014 were in **rural** areas (86.0%). Almost half (49.5%) of the births were to women who completed primary **education**; 15.5% of births were to women under the age of 20 (Table 2.7). Regarding **birth order** for births since January 2014, the distribution of births was different for rural compared to urban women. In rural areas, the distribution showed fewer first births (18.3% in rural vs. 27.1% in urban areas), but more births that were 4-or-higher birth order than urban (52.7% vs. 35.8%%, respectively) (Table 2.8).

Tables

Table 2.1: Availability of Basic Household Services, by Urban vs Rural Residence, 2016 (Percent Distribution)

All Households with Completed Interviews

Service	Urban (%)	Rural (%)	Total (%)
Drinking water source			
Piped	34.7	28.1	29.3
Open well	11.8	13.2	13.0
Covered well	16.8	12.2	13.0
Surface water	26.2	46.4	42.8
Other	10.4	0.1	1.9
Toilet facility			
Flush/pour toilet	25.8	0.9	5.4
Pit latrine	74.0	96.0	92.0
Other	0.0	0.03	0.03
None	0.2	3.0	2.5
Electricity			
Yes	49.5	11.5	18.4
No	50.5	88.5	81.6
Cell phone			
Yes	80.3	56.6	60.9
No	19.7	43.4	39.1
Total	**100.0**	**100.0**	**100.0**
Number of households	**1,199**	**5,262**	**6,461**

Source: 2016 Kigoma Reproductive Health Survey.

Table 2.2: Selected Characteristics of Women, by Urban vs. Rural Residence (Percent Distribution)

Women of Reproductive Age (15–49)

	Kigoma (RHS, 2016)				Tanzania (DHS 2015–2016)	
Characteristic	**Urban (%)**	**Rural (%)**	**Total (%)**	**Number of Women**	**Total (%)**	**Number of Women**
Residence						
Urban	100.0	0.0	20.3	1,497	36.3	4,145
Rural	0.0	100.0	79.7	5,526	63.7	9,121
Age group						
15–19	24.6	24.1	24.2	1,645	21.9	2,932
20–24	18.7	18.2	18.3	1,288	18.7	2,467
25–29	15.8	14.3	14.6	1,019	16.0	2,110
30–34	13.6	13.3	13.3	960	13.2	1,746
35–39	12.2	12.3	12.3	874	12.4	1,629
40–44	8.5	10.7	10.3	740	10.3	1,347
45–49	6.5	7.2	7.1	497	7.5	1,035
Education level						
No education	13.4	27.1	24.3	1,711	14.7	1,998
Some primary	13.0	16.6	15.9	1,100	11.8	1,639
Completed primary	44.6	50.6	49.4	3,474	50.1	6,001
Attended secondary or higher	28.9	5.7	10.5	738	23.4	3,628
Swahili literacy						
Illiterate	18.0	34.2	30.9	2,174	27.4	N/A
Partially literate	7.3	9.1	8.8	606	5.3	N/A
Literate	74.7	56.7	60.4	4,243	67.0[a]	N/A
Current union status						
Married	39.1	43.4	42.5	3,031	44.9	6,137
In union	13.0	22.8	20.8	1,445	17.0	2,052
Widowed	3.6	2.5	2.7	192	2.9	345
Divorced	2.5	1.2	1.4	105	10.0[b]	1,254[b]
Separated	7.7	7.0	7.1	502		
Never in union	34.2	23.2	25.4	1,748	25.3	3,478
Total	**100.0**	**100.0**	**100.0**	**7,023**	**100.0**	**13,226**

Source: 2016 Kigoma Reproductive Health Survey. 2015–2016 Tanzania Demographic and Health Survey.

[a] Includes women who attended secondary school or higher (assumed literate), as well as women who attended up to primary school and who could read a whole sentence.

[b] Divorced/separated.

Table 2.3: Relative Socioeconomic Classification (in Terciles) of Selected Women, by Urban vs. Rural Residence (Percent Distribution)

Women of Reproductive Age (15–49)

Characteristic	Urban (%)	Rural (%)	Total (%)	Number of Women
Wealth tercile				
Low	7.6	37.3	31.3	2,179
Middle	9.2	38.1	32.3	2,255
High	83.1	24.6	36.5	2,589
Total	**100.0**	**100.0**	**100.0**	**7,023**

Source: 2016 Kigoma Reproductive Health Survey.

Table 2.4: Components of Economic Empowerment Index, by Urban vs. Rural Residence (Percentage)

Women of Reproductive Age (15–49)

	Urban (%)	Rural (%)	Total (%)
Indicator			
Received money for work outside home (last 12 months)	37.3	26.6	28.8
Received goods for work outside home (last 12 months)	4.5	4.7	4.6
Has her own cash savings	18.5	10.4	12.0
Owns land	13.2	26.5	23.8
Has assets that could help her generate income	8.8	7.6	7.9
Economic empowerment index			
0	52.8	53.6	53.5
1	26.5	26.5	26.5
2	11.6	12.6	12.4
3	4.7	5.2	5.1
4–5	4.4	2.0	2.5
Number of women	1,427	5,596	7,023

Source: 2016 Kigoma Reproductive Health Survey.

Table 2.5: Household Decision-Making Index: Scale 0 [Low] to 6 [High], by Selected Characteristics (Percent Distribution)
Women in Union Aged 15–49

Characteristic	Household Decision-Making Score (%)								Number of Women
	0	1	2	3	4	5	6	Total	
Residence									
Urban	12.4	7.9	9.6	10.4	14.1	11.5	34.2	100.0	747
Rural	16.5	9.4	9.8	12.5	11.8	12.4	27.6	100.0	3,729
Age group									
15–19	32.0	10.1	8.5	10.8	9.4	6.7	22.5	100.0	319
20–24	21.8	11.3	11.2	13.4	10.3	7.7	24.4	100.0	848
25–29	16.4	10.5	9.0	11.7	10.8	10.9	30.6	100.0	801
30–34	12.4	9.9	11.2	11.2	12.8	13.0	29.5	100.0	797
35–39	11.5	6.9	10.1	13.1	14.7	14.5	29.2	100.0	725
40–44	11.0	7.3	8.4	11.9	13.0	16.6	31.8	100.0	601
45–49	9.7	5.7	7.9	12.0	14.3	17.6	32.9	100.0	385
Education level									
No education	18.3	10.5	9.3	12.1	11.5	10.8	27.5	100.0	1,320
Some primary	18.6	9.1	12.4	12.6	14.2	9.7	23.6	100.0	628
Completed primary	14.1	8.5	9.9	12.3	12.4	13.9	28.9	100.0	2,265
Attended secondary or higher	11.2	7.8	4.8	10.3	8.4	11.9	45.6	100.0	263
Total	**15.8**	**9.1**	**9.8**	**12.1**	**12.2**	**12.3**	**28.7**	**100.0**	**4,476**

Source: 2016 Kigoma Reproductive Health Survey.

Table 2.6: Media Access and Religious Service Attendance, by Urban vs. Rural Residence (Percent Distribution)
Women of Reproductive Age (15–49)

Characteristic	Urban (%)	Rural (%)	Total (%)	Number of Women
Listens to radio				
Almost every day	32.9	19.1	21.9	1,553
At least once a week	24.1	22.1	22.5	1,581
Less than once a week	9.2	9.8	9.7	669
Not at all	33.8	49.0	45.9	3,220
Watches TV				
Almost every day	28.7	1.5	7.0	503
At least once a week	14.8	4.9	6.9	484
Less than once a week	5.5	4.1	4.4	299
Not at all	51.0	89.5	81.7	5,737
Personal cell phone ownership				
Yes	58.0	27.2	33.4	2,377
No	42.0	72.8	66.6	4,646
Religious service attendance				
At least daily	17.4	9.3	10.9	772
At least weekly	69.0	73.5	72.6	5,083
At least monthly	8.4	7.3	7.5	528
Occasionally	2.5	2.7	2.7	187
None	2.7	7.2	6.3	447
Refused				6
Total	**100.0**	**100.0**	**100.0**	**7,023**

Source: 2016 Kigoma Reproductive Health Survey.

Table 2.7: Characteristics of All Births (Live Births/Stillbirths) Occurring Since January 2014, by Selected Characteristics (Percent Distribution)

Births to Women Aged 15–49 Since January 2014

Characteristic	Urban	Rural	Total	Number of Births
Residence				
Urban	100.0	0.0	14.0	493
Rural	0.0	100.0	86.0	3,033
Mother's age at birth				
10–19	17.7	17.9	15.5	539
20–24	24.8	24.8	24.5	861
25–29	22.5	22.5	22	771
30–34	20.3	20.2	18.4	656
35–39	11.1	11.1	13.6	482
40–44	3.4	3.4	5.5	198
45–49	0.2	0.2	0.5	19
Mother's Education level				
No education	13.5	31.6	29.1	1,024
Some primary	17.6	15.3	15.6	550
Completed primary	45.7	50.1	49.5	1,747
Attended secondary or higher	23.3	3.0	5.8	205
Household wealth tercile				
Low	10.6	40.6	36.5	1,276
Middle	10.3	36.6	32.9	1,156
High	79.1	22.7	30.6	1,094
Birth order				
1	27.1	18.3	19.5	677
2	22.2	15.6	16.5	582
3	14.9	13.4	13.6	482
4	11.6	11.3	11.4	397
5	8.2	10.5	10.1	360
6	6.3	10.1	9.6	341
7	2.9	7.4	6.8	241
8	4.1	5.6	5.4	192
9	1.7	4.2	3.8	136
10+	1.2	3.7	3.3	118
Year of birth				
2014	38.2	39.1	39.0	1,383
2015	38.0	37.0	37.1	1,299
2016 [a]	23.8	23.9	23.9	844
Number of Living Children + Current Pregnancy				
0	0.7	0.6	0.6	23
1	24.6	15.5	16.8	581
2	25	17	18.1	641
3	15.1	14.5	14.6	513
4 or more	34.5	52.4	49.9	1,768
Total	**100.0**	**100.0**	**100.0**	**3,526**

Source: 2016 Kigoma Reproductive Health Survey.

[a] January–September only.

Table 2.8: Birth Order of All Births (Live Births/Stillbirths) Since January 2014, by Mother's Characteristics (Percent Distribution)
Births to Women Aged 15–49 Since January 2014

Characteristic	Birth Order (%)				Total	Number of Births
	1	2	3	4+		
Residence						
Urban	27.1	22.2	14.9	35.8	100.0	493
Rural	18.3	15.6	13.4	52.7	100.0	3,033
Education level						
No education	10.2	11.1	12.5	66.2	100	1,024
Some primary	20.1	19.1	15	45.8	100	550
Completed primary	21.7	17.2	13.8	47.3	100	1,747
Attended secondary or higher	45.8	30.9	13.1	10.2	100	205
Wealth tercile						
Low	17.9	16.4	13.7	52.0	100.0	1,276
Middle	17.9	13.9	12.2	56.0	100.0	1,156
High	23.1	19.5	15.0	42.4	100.0	1,094
Total	**19.5**	**16.5**	**13.6**	**50.4**	**100.0**	**3,526**

Source: 2016 Kigoma Reproductive Health Survey.

References:

- National Bureau of Statistics, Office of Chief Government Statistician. Population Distribution by Age and Sex. Dar es Salaam and Zanzibar, Tanzania: NBS, Office of Chief Government Statistician; 2013.
- CARE USA. Women's Empowerment: Multidimensional Evaluation of Agency, Social Capital & Relations (WE– MEASR): a Tool to Measure Women's Empowerment in Sexual, Reproductive and Maternal Health Programs. Atlanta, GA: CARE USA; 2014, p. 14.
- CARE USA. Women's Empowerment: Multidimensional Evaluation of Agency, Social Capital & Relations (WE– MEASR): a Tool to Measure Women's Empowerment in Sexual, Reproductive and Maternal Health Programs. Atlanta, GA: CARE USA; 2014, pp. 20-22.

Chapter 3: Fertility

Current fertility, cumulative fertility trends, and future fertility preferences all influence the population growth and reproductive health of a population. Using data from the 2016 Kigoma Reproductive Health Survey (RHS), this chapter assesses current levels and trends of fertility in the Kigoma Region and examines differences between population subgroups, highlighting recent changes since the 2014 Kigoma RHS. We use data from the 2010 and the 2015-2016 Tanzania Demographic and Health Surveys (DHS) to compare national fertility trends with Kigoma data from the 2014 and 2016 RHS, respectively.

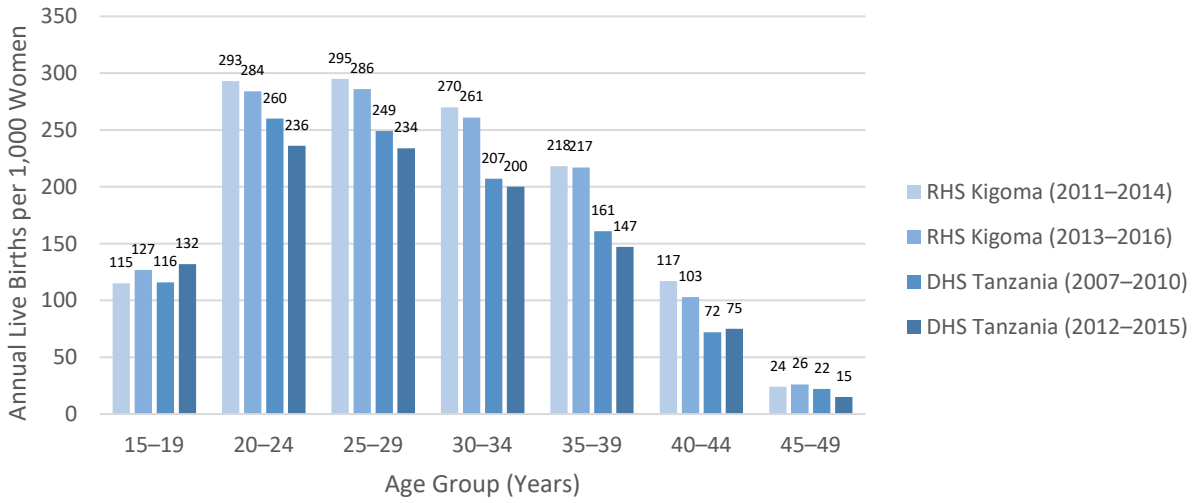
The 2016 RHS collected fertility information through a series of questions on childbearing experiences and a complete pregnancy history. These questions first determine each woman's age of menarche, current pregnancy status, and total number of live births. The pregnancy history collects detailed information about every pregnancy in the woman's life that she reported, regardless of the outcome (including live births, stillbirths, multiple births, miscarriages/abortions, and ectopic pregnancies).

Fertility Levels

Current fertility levels are estimated using the age-specific fertility rate (ASFR), the total fertility rate (TFR), and the general fertility rate (GFR) in the three years prior to the survey. The GFR provides a crude indicator of current fertility and is expressed as the average annual number of live births per 1,000 women aged 15-49 years. The TFR and the ASFR are discussed in more detail below.

The **age-specific fertility rate** describes the age pattern of fertility, broken down into 5-year age groups (Table 3.1). It is defined as the annual number of live births per 1,000 women in each age group for the 36-month period prior to each survey. Although fertility rates are higher in Kigoma than nationwide for almost every age group, most age groups recently experienced a decline both in Kigoma and nationally. Both the Kigoma and the national ASFR decline is especially pronounced for age groups 20–24 and 25–29 years, while in Kigoma this was also true for the 40-44 years age group (Figure 3.1). However, both Kigoma and national ASFRs increased for the youngest age group of 15–19 years. Within both time periods, the Kigoma ASFRs are higher than the national ASFRs for all age groups above 15–19 years.

Figure 3.1: Age-Specific Fertility Rates for 36 Month Periods Prior to the Kigoma Reproductive Health Survey (RHS) and the Tanzania Demographic and Health Surveys (DHS)



Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey, 2010 Demographic and Health Survey, 2015–2016 Demographic and Health Survey.

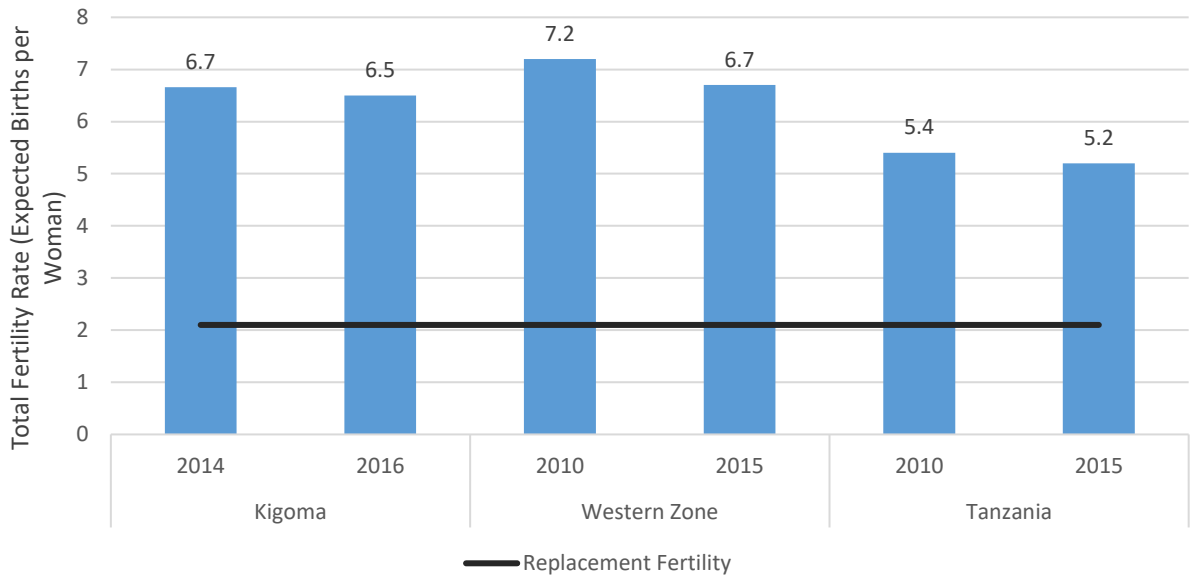
These trends may be driven by fertility change within socioeconomic subgroups, with distinct patterns seen by area of residence, education level, and wealth tercile (Table 3.1). The ASFR remained relatively stable for **rural** women in Kigoma across the two RHS surveys, but the indicators largely declined for **urban** women. Although the ASFR fell for nearly all urban age groups, the decline was largest for urban women aged 25–29 (2014: 238 live births per 1,000 women aged 25–29 years; 2016: 199), and women aged 35–39 (2014: 171; 2016: 135).

The **total fertility rate** expresses the average total number of live births that a woman would experience if she survived until the end her reproductive lifespan (ages 15–49 years) and experienced the current, observed ASFRs at each age group. Figure 3.2 presents the recent TFR estimates for the Kigoma Region, the Western Zone of Tanzania, and Tanzania nationwide. The 2016 RHS for Kigoma showed a slight decrease of 0.2 children since the 2014 RHS, changing from 6.7 in 2014; to 6.5 in 2016 (Table 1.1; Table 3.1; Figure 3.2). This decline follows a national trend in Tanzania (2010 DHS: Tanzania TFR 5.4; 2015 DHS: Tanzania TFR 5.2), although the Kigoma Region TFR remains considerably higher than national levels in both time periods. The Kigoma Region TFR remains slightly lower than the TFR of the Western Zone of Tanzania; however, the Kigoma TFR pace of decline may be slower than the Western Zone. The TFR within each of these demographic breakdowns remains considerably higher than replacement level fertility (2.1 births per woman). Whereas the TFR remained relatively stable for rural women in Kigoma across the two RHS surveys, the indicators

largely declined for urban women; the TFR for urban women dropped from 4.7 in 2014 to 4.3 in 2016, a difference of approximately 0.4 live births per woman.

For the 2016 Kigoma RHS, fertility levels generally decreased with increased education level and wealth tercile across age groups. In the 2016 RHS, the TFR of women with no formal education was 7.5, compared to only 4.0 among women who attended secondary school or higher (Table 3.1). This is a large difference of 3.5 live births between the lowest and highest education levels, and a slight increase from the 2014 RHS where the equivalent difference was 3.2 live births (data not shown).

Figure 3.2: Total Fertility Rates for Kigoma Region, Whole Western Zone, and Tanzania

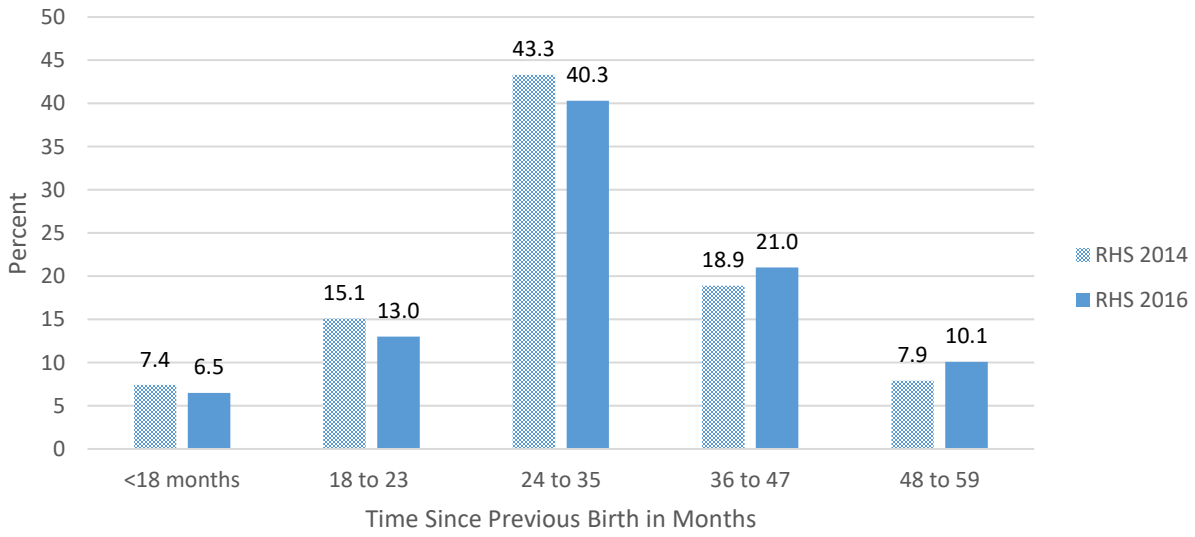


Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey, 2010 Demographic and Health Survey, 2015–2016 Demographic and Health Survey, National Official Statistics

Table 3.2 presents the distribution of all women and of women currently in union by the number of children ever born, according to 5-year age groups. Table 3.3 illustrates the ages of initiation into sexual activity, entry into marriage, and childbearing.

Fertility can also be described in terms of length of time between two live births (birth interval). Intervals greater than or equal to 24 months between births have been shown to be beneficial for the health of both mother and child. Figure 3.3 displays the percentage of births that occurred at intervals of less than 18, 18 to 23, 24 to 35, 36 to 47, and 48 to 59 months in the five years prior to the survey. Table 3.4 shows 2016 birth intervals overall for Kigoma and by maternal age, birth order, residence, education and wealth tercile. For all of Kigoma (2016), only 6.5% of births followed a very short interval of less than 18 months (down from 7.4% of births in 2014), and only one-fifth (19.5%) of births had a birth interval of less than 24 months (down from 22.5% in 2014) (Figure 3.3). In fact, the figure illustrates that the birth intervals lengthened in Kigoma between the 2014 and 2016 RHS (i.e., a larger proportion of births have intervals of 36 months or more). This lengthening of birth intervals again follows a socioeconomic pattern, with women of urban residence, of higher education levels, and of higher wealth terciles having longer birth intervals (data not shown).

Figure 3.3: Births Within 18, 18 to 23, 24 to 35, 36 to 47, and 48 to 59 Months of a Previous Birth, Women Ages 15 to 49 Years (Percent)



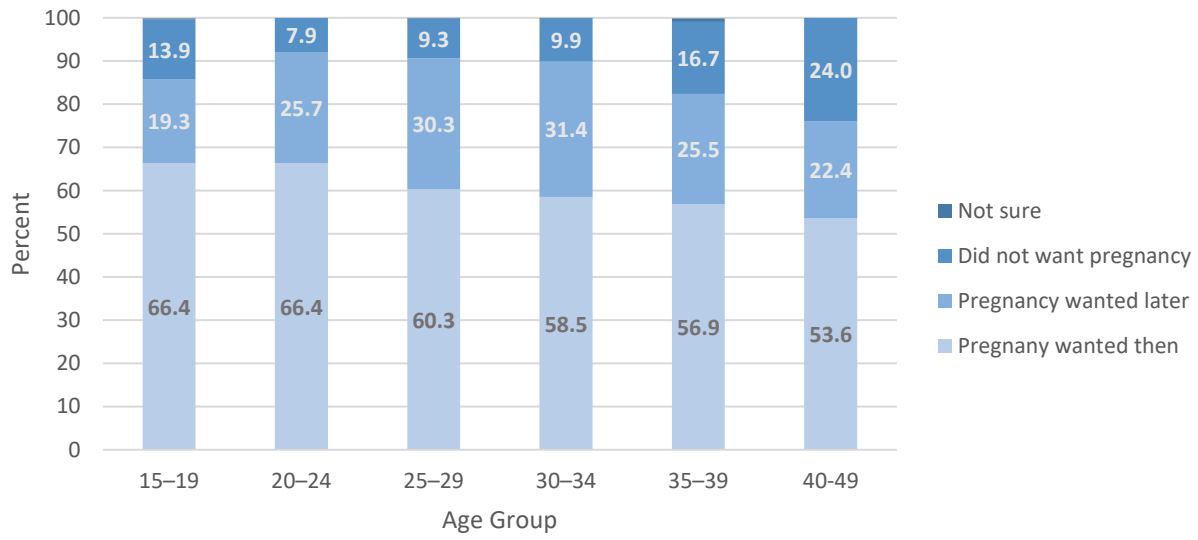
Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Fertility Preferences and Planning Status of Previous Pregnancies

Information on fertility preferences and the planning status of previous pregnancies provides valuable insight into the degree of unwanted or mistimed pregnancies, the desire for future childbearing, and the potential demand for family planning services.

Figure 3.4 shows the percent distribution of all births in the three years before the 2016 RHS (since January 2014) by maternal age and the planning status of the birth.[1] Starting at aged 20–24, the proportion of **births reported as wanted (wanted then) and correctly timed** decreases as maternal age increases, for all age groups (Table 3.5). The proportion of **births that are wanted but mistimed** (pregnancy is wanted later) at first increases with age, reaching a peak between aged 30–34 years, then declines in the older age group. The proportion of **births that are unwanted** declines between the 15-19 year group and the 20-24 group, then increases with each age group and peaks with the oldest.

Figure 3.4: Planning Status of Births Since January 2014 (2016, RHS), by Age Group (Percent Distribution)

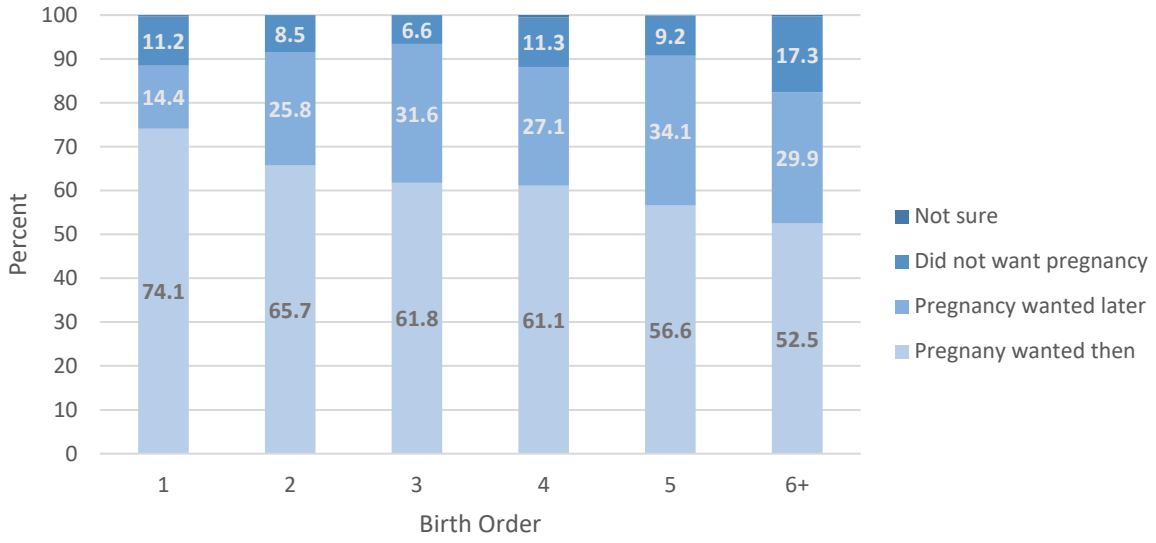


Source: 2016 Kigoma Reproductive Health Survey.

[1] Note: For 2016 Survey, births include women who are currently pregnant.

When looking at birth order in the 2016 survey, the proportion of **births reported as wanted then and correctly timed** decreases as birth order increases (Figure 3.5) (Table 3.5). The proportion of births reported as **unwanted** ("Did not want the pregnancy") decreases with birth order until the 3rd child and then is higher, with the highest level of unwanted pregnancy among birth order 6 or higher.

Figure 3.5: Planning Status of Births Since 2014 (RHS 2016), by Birth Order (Percent Distribution)[a]

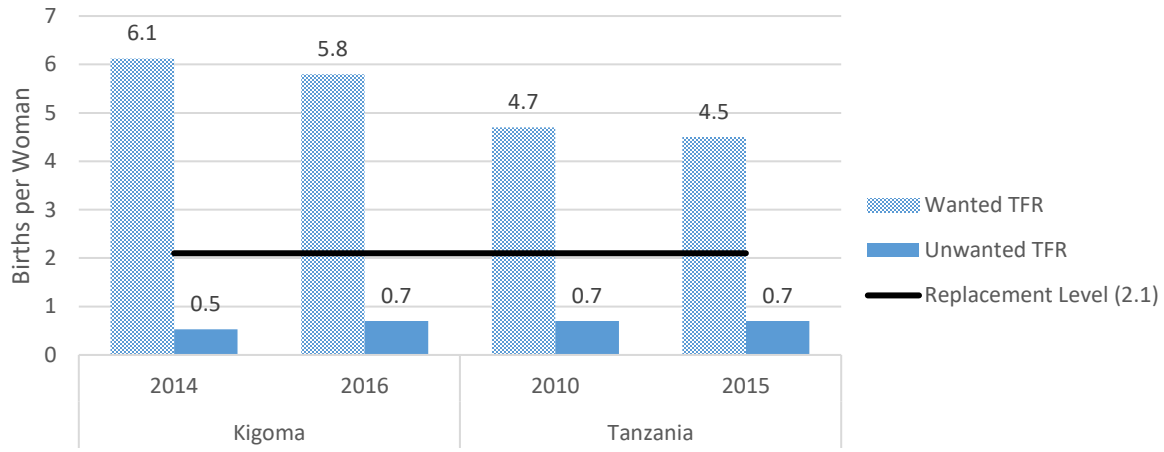


Source: 2016 Kigoma Reproductive Health Survey.
[a] Current pregnancies are counted here as births.

Details on the planning status of births by urban/rural residence, education level, wealth tercile, and year of pregnancy completion are presented in Table 3.5.

The **wanted Total Fertility Rate** (TFR) in the Kigoma Region showed a small decline from 6.1 in the 2014 RHS to 5.8 in the 2016 RHS, a difference of 0.3 live births per women (Figure 3.6) (Table 3.6). This slight decline in wantedness was similar to the national level, where the wanted TFR for Tanzania as a whole showed a small drop between the 2010 and 2015 DHS surveys. The wanted TFR remains higher in the Kigoma Region relative to the national level. Similar to the 2014 RHS, the 2016 RHS wanted TFR is higher among women who live in rural areas, those with no education, and those who were classified in the lower wealth tercile. Differences in wanted TFR by urban/rural residence, education level, and wealth tercile are also illustrated in Table 3.6.

Figure 3.6: Trends in Wanted and Unwanted Fertility for Kigoma Region and Tanzania



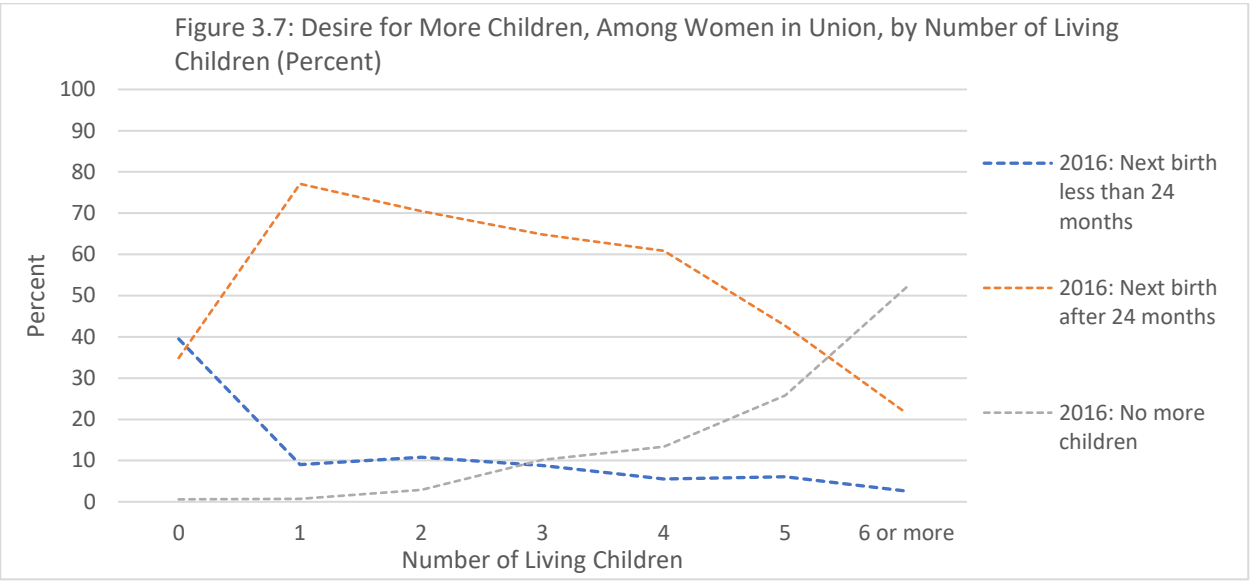
Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey, 2010 Demographic and Health Survey, 2015–2016 Demographic and Health Survey.

Future Fertility Preferences

Women in a union, either currently married or in an informal union, were asked whether they wanted more children in the future and, if so, how long they would like to wait until the birth of the next child. The desire for more children is strongly patterned on the woman's number of living children (Figure 3.7) and her current age (Figure 3.8). The **desire for no more children** increases with the **number of living children** and with mother's **age** in both the 2014 and 2016 RHS. The group with the largest proportion who wanted no more children was that of women with 6 or more children and women aged 44-49 (Table 3.7). Variation in the desire for having no more children by urban/rural residence, education, and income is shown in Table 3.8.

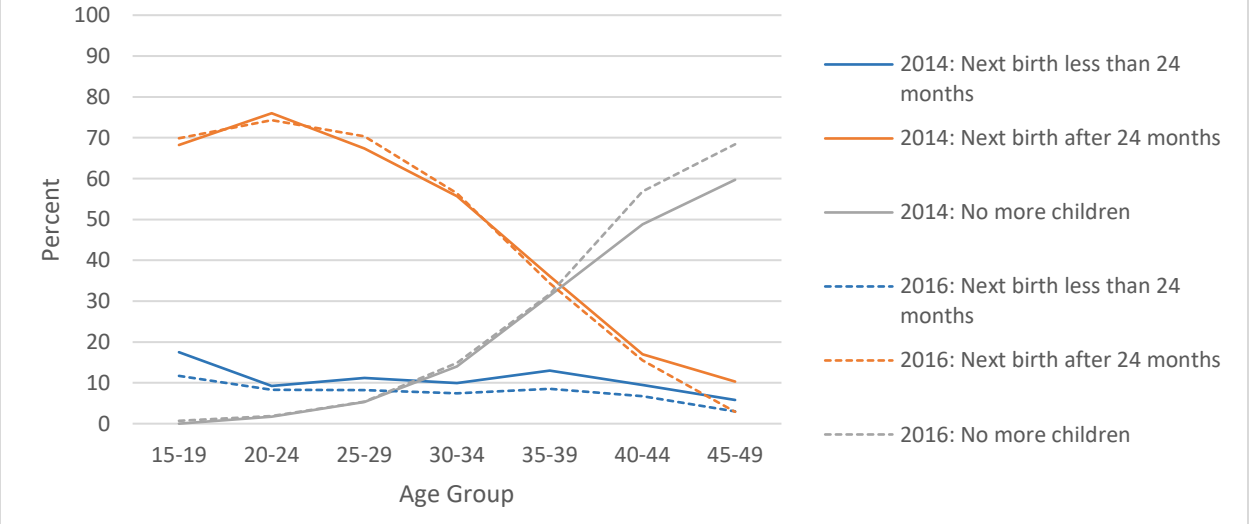
Table 3.9 shows the distribution of women by their ideal number of children, as well as the percentage of women who had more than their ideal number of children. Overall, 19.5% of the women said their ideal number was 8 or more children and 27.2% said "Fate" or "up to God". Table 3.10 provides more information on the average ideal family size, as well as the percentage of women who had exceeded their ideal family size.

Figure 3.7: Desire for More Children, Among Women in Union, by Number of Living Children (Percent)



Source: 2016 Kigoma Reproductive Health Survey.

Figure 3.8: Desire for More Children, Among Women in Union, by Age Group (Percent)



Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Tables

Table 3.1: Age-Specific Fertility Rates (ASFR), Total Fertility Rates (TFR) , and General Fertility Rates (GFR) During July 2013–June 2016
All Women Aged 15–49 Years

	ASFR							TFR	Number of Women	GFR
	15–19	20–24	25–29	30–34	35–39	40–44	45–49			
Residence										
Urban: 2016 RHS	100	195	199	179	135	37	11	4.3	1,427	141
2014 RHS	87	209	238	192	171	45	8	4.7	795	155
Rural: 2016 RHS	134	309	308	283	237	116	29	7.1	5,596	221
2014 RHS	121	315	308	289	226	132	27	7.1	3,121	222
Education level										
No education	190	356	293	283	215	122	37	7.5	1,711	240
Some primary	148	307	335	243	261	99	31	7.1	1,100	223
Completed primary	128	294	285	257	212	96	20	6.5	3,474	198
Attended secondary or higher	44	166	206	188	170	22	0	4.0	738	121
Wealth tercile										
Low	148	345	318	305	222	130	42	7.6	2,179	238
Middle	126	286	299	266	251	116	28	6.9	2,255	210
High	109	232	249	219	177	65	12	5.3	2,589	171
Total RHS 2016	**127**	**284**	**286**	**261**	**217**	**103**	**26**	**6.5**	**7,023**	**205**
RHS 2014	**115**	**293**	**295**	**270**	**218**	**117**	**24**	**6.7**	**3,916**	**210**
DHS 2010	**116**	**260**	**249**	**207**	**161**	**72**	**22**	**5.4**	**10,139**	**188**
DHS 2015–2016	**132**	**236**	**234**	**200**	**147**	**75**	**15**	**5.2**	**13,266**	**178**

Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey. 2010 Tanzania Demographic and Health Survey, 2015–2016 Tanzania Demographic and Health Survey.

Table 3.2: Number of Children Ever Born (Percent Distribution)

All Women Aged 15–49 Years, and Women in Union Aged 15–49 Years

AgeGroup	Number of Children Ever Born (%)											Total	Number of Women	Mean Children Ever Born	Mean Children Surviving
	0	1	2	3	4	5	6	7	8	9	10 or more				
All women															
15–19	83.7	14.2	2.0	0.1	0.1	.	.	.	.	.	.	100.0	1,645	0.19	0.17
20–24	24.2	32.7	29.0	11.6	2.3	0.2	.	.	.	.	.	100.0	1,288	1.36	1.29
25–29	7.1	13.4	19.6	25.3	20.9	10.0	2.9	1.0	.	.	.	100.0	1,019	2.86	2.68
30–34	1.1	3.2	9.1	16.4	18.9	22.1	16.0	9.3	2.6	1.2	.	100.0	960	4.50	4.16
35–39	2.1	2.4	4.3	6.9	8.0	15.0	20.7	17.5	11.3	8.9	3.0	100.0	874	5.87	5.35
40–44	1.3	2.0	3.2	5.4	6.1	8.9	13.5	17.3	16.0	11.1	15.2	100.0	740	6.85	6.08
45–49	2.4	2.4	2.5	4.0	5.5	6.6	11.8	14.5	14.7	12.1	23.3	100.0	497	7.27	6.21
Total	**26.4**	**12.5**	**10.9**	**9.7**	**88.0**	**7.7**	**7.3**	**6.3**	**4.4**	**3.3**	**3.6**	**100.0**	**7,023**	**3.25**	**2.94**
Women currently in union															
15–19	47.4	44.7	7.1	0.4	0.3	.	.	.	.	.	.	100.0	319	0.61	0.57
20–24	9.8	35.5	35.4	16.0	3.2	0.1	.	.	.	.	.	100.0	848	1.68	1.59
25–29	2.2	10.8	19.6	27.4	24.1	11.3	3.6	1.1	.	.	.	100.0	801	3.14	2.96
30–34	0.6	1.5	7.2	14.5	19.2	23.7	18.0	10.9	3.0	1.4	.	100.0	797	4.75	4.41
35–39	1.4	1.1	3.2	5.4	8.0	13.9	21.8	18.7	12.8	10.1	3.5	100.0	725	6.17	5.64
40–44	0.6	1.1	1.8	4.3	5.2	8.7	12.1	18.9	17.3	12.9	17.1	100.0	601	7.23	6.44
45–49	2.1	1.7	1.1	2.7	5.2	5.6	10.0	14.6	16.0	13.9	27.1	100.0	385	7.71	6.63
Total	**6.4**	**12.8**	**12.9**	**12.2**	**10.8**	**10.1**	**9.8**	**8.9**	**6.2**	**4.8**	**5.2**	**100.0**	**4,476**	**4.38**	**3.98**

Source: 2016 Kigoma Reproductive Health Survey.

Table 3.3: Women Who Ever Had Sexual Relations, Ever Were Married, or Ever Had a Birth, by Current Age (Percent)

All Women Aged 15–49 Years

Age Group	Ever Had Sex	Ever Married or in Union	Ever Had a Birth	Number of Women
15–19	31.8	22.6	16.3	1,645
20–24	87.8	75.5	75.8	1,288
25–29	97.1	91.3	92.9	1,019
30–34	99.9	96.6	98.9	960
35–39	99.4	98.1	97.9	874
40–44	99.9	98.4	98.7	740
45–49	99.8	98.5	97.6	497
Mean age	17.6 [a]	18.7	19.3 [b]	7,023
Total	**80.8**	**74.6**	**73.6**	**7,023**

[a] Mean age at first sex excludes 127 cases with missing information at first sex.

[b] Mean age at first birth excludes 25 cases with missing information on mother's age at first birth.

Source: 2016 Kigoma Reproductive Health Survey.

Table 3.4: Non-First Births Since January 2014, that Occurred Within 18, 24, 36, 48, and 60 Months After the Previous Birth[a] (Percent)

Non-First Births Since January 2014

	Time Since Previous Birth (%)					Number of Births
	< 18 months	< 24 months	< 36 months	< 48 months	< 60 months	
Age at birth						
< 25	11.3	29.7	74.9	91.8	97.5	751
25–34	5.3	17.3	56.4	79.3	89.5	1,329
35–49	3.6	12.3	49.4	71.2	86.4	673
Mean Age	26.4	27.0	28.2	28.7	29.0	2,753
Birth order						
2	10.7	27.4	66.3	84.9	91.9	569
3	6.0	18.1	57.5	77.4	88.1	464
4	5.3	16.0	57.0	79.7	88.6	384
5	6.6	19.3	58.1	79.6	89.8	349
6+	4.8	17.0	58.8	80.8	93.0	987
Residence						
Urban	5.9	14.3	41.3	60.6	75.0	354
Rural	6.6	20.2	62.5	83.7	93.3	2,399
Education level						
No education	4.8	18.1	63.4	83.4	93.5	874
Some primary	9.1	24.7	62.3	84.6	92.9	432
Completed primary	6.6	19.0	58.0	79.2	89.4	1,336
Attended secondary or higher	9.3	15.3	42.5	64.9	80.6	111
Wealth tercile						
Low	6.4	20.8	63.9	85.0	93.7	1,013
Middle	6.0	18.4	61.5	81.9	92.5	920
High	7.2	19.1	52.6	74.2	85.5	820
Total	**6.5**	**19.5**	**59.8**	**80.8**	**90.9**	**2,753**

Source: 2016 Kigoma Reproductive Health Survey.

[a] Excludes 677 first births and 96 missing information on previous interval length.

Table 3.5: Planning Status of Births[a] (Percent Distribution)

All Births Since January 2014

	Planning Status of Births				Total	Number of Births
	Wanted Then	Wanted Later	Wanted No More	Not Sure		
Age at birth						
15–19	66.4	19.3	13.9	0.3	100.0	539
20–24	66.4	25.7	7.9	0.0	100.0	861
25–29	60.3	30.3	9.3	0.1	100.0	771
30–34	58.5	31.4	9.9	0.2	100.0	656
35–39	56.9	25.5	16.7	0.8	100.0	482
40–49	53.6	22.4	24.0	0.0	100.0	217
Birth order						
1	74.1	14.4	11.2	0.3	100.0	677
2	65.7	25.8	8.5	0.0	100.0	582
3	61.8	31.6	6.6	0.0	100.0	482
4	61.1	27.1	11.3	0.6	100.0	397
5	56.6	34.1	9.2	0.0	100.0	360
6+	52.5	29.9	17.3	0.4	100.0	1,028
Residence						
Urban	64.0	16.9	18.4	0.7	100.0	493
Rural	61.2	28.1	10.6	0.2	100.0	3,033
Education level						
No education	61.5	26.6	11.4	0.5	100.0	1,024
Some primary	56.5	28.6	14.6	0.4	100.0	550
Completed primary	62.4	27.1	10.4	0.1	100.0	1,747
Attended secondary or higher	68.1	16.1	15.8	0.0	100.0	205
Wealth tercile						
Low	60.9	27.6	11.2	0.2	100.0	1,276
Middle	59.8	28.4	11.6	0.2	100.0	1,156
High	64.2	23.3	12.3	0.3	100.0	1,094
Pregnancy outcome						
Live birth (single)	63.0	25.3	11.4	0.2	100.0	3,078
Multiple live birth	62.4	27.5	10.1	0.0	100.0	61
Multiple (live & stillbirth)	[b]	[b]	[b]	[b]	[b]	[b]
Stillbirth (single)	65.6	23.3	11.1	0.0	100.0	53
Multiple stillbirth	[b]	[b]	[b]	[b]	[b]	[b]
Currently pregnant	46.6	38.6	14.1	0.7	100.0	330
Year pregnancy ended						
2014	59.6	28.3	11.9	0.2	100.0	1,383
2015	62.4	26.0	11.4	0.2	100.0	1,299
2016	63.4	24.5	11.8	0.3	100.0	844
Total	**63.7**	**25.5**	**10.7**	**0.2**	**100.0**	**3,526**

[a] Includes women who are currently pregnant.

[b] Fewer than 25 cases

Source: 2016 Kigoma Reproductive Health Survey.

Table 3.6: Total Wanted and Unwanted Fertility Rates During July 2013–June 2016

All Women Aged 15–49 Years

	All Women Aged 15–49 Years				Women Aged 40–49 Years	
	Wanted TFR	Unwanted TFR	TFR	Number of Women	Mean Number Children Ever Born	Number of Women
Residence						
Urban	3.5	0.8	4.3	1,427	5.5	212
Rural	6.4	0.8	7.1	5,596	7.3	1,025
Education level						
No education	6.6	0.8	7.4	1,711	7.1	371
Some primary	6.3	1	7.3	1,100	7.6	140
Completed primary	5.9	0.7	6.6	3,474	6.9	706
Attended secondary or higher	3.4	0.5	4	738	3.9	20
Wealth tercile						
Low	6.7	0.8	7.5	2,179	7.3	388
Middle	6.1	0.8	6.9	2,255	7.4	434
High	4.8	0.6	5.4	2,589	6.4	415
Total	**5.8**	**0.7**	**6.5**	**7,023**	**7.0**	**1,237**

Source: 2016 Kigoma Reproductive Health Survey.
Abbreviation: TFR: Total Fertility Rate

Table 3.7: Desire for More Children, by Current Number of Living Children and Woman's Age (Percent Distribution)
Women Aged 15–49 Years, Currently Married or in Union

	Kigoma Region [a]								
	Number of Living Children [b]								
	0	1	2	3	4	5	6 or more	Total	Tanzania [c]
Desire for More Children									
More soon (<2 years)	39.5	9.0	10.8	8.8	5.5	6.1	2.6	7.7	22.1
More later	34.9	77.1	70.5	64.8	60.9	42.7	21.5	49.8	42.2
More, unsure when	6.5	3.6	4.2	4.6	3.8	5.4	4.5	4.5	0.9
No more children/sterilized	0.6	0.7	2.9	10.2	13.4	25.8	52.0	22.5	25.7
Unable to get pregnant	4.3	0.6	1.1	0.8	1.6	2.9	2.8	1.9	2.3
God's will/Fate	13.6	8.6	10.0	9.5	13.5	15.7	14.7	12.4	N/A
Not sure	0.6	0.3	0.6	1.2	1.4	1.5	1.7	1.2	3.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of Women	175	602	640	617	529	520	1,391	4,474	8,210

	Age Group								
	15–19	20–24	25–29	30–34	35–39	40–44	45–49	Total	Tanzania [bc]
Desire for More Children									
More soon (<2 years)	11.7	8.3	8.2	7.4	8.5	6.7	3.0	7.7	22.1
More later	69.9	74.3	70.3	56.4	34.4	15.5	2.9	49.8	42.2
More, unsure when	5.8	4.3	4.8	4.9	5.6	3.6	1.3	4.5	0.9
No more children/sterilized	0.7	1.9	5.4	14.9	31.7	56.9	68.4	22.5	25.7
Unable to get pregnant	0.6	0.5	0.3	0.5	0.8	2.8	13.5	1.9	2.3
Gods will/Fate	10.8	10.2	10.4	14.9	16.7	12.5	9.9	12.4	N/A
Not sure	0.6	0.6	0.7	1.1	2.3	1.9	1.1	1.2	3.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of Women	319	847	800	797	725	601	385	4,474	8,210

[a] 2016 Kigoma Reproductive Health Survey.
[b] Women who were pregnant at the time of the interview were classified as having an additional living child.
[c] 2015–2016 Tanzania DHS.

Table 3.8: Women Who Wanted No More Children, by Number of Living Children [a] (Percent)
Women Aged 15–49 Years, Currently Married or in Union

	Number of Living Children							
	0	1	2	3	4	5	6 or more	Total
Residence								
Urban	2.5	0.8	1.3	15.1	24.2	45.0	61.8	22.0
Rural	0.0	0.7	3.3	8.8	11.1	22.3	51.0	22.6
Education level								
No education	0.0	2.4	6.3	8.5	13.1	20.9	46.8	24.4
Some primary	0.0	0.0	2.0	7.1	10.9	27.3	54.0	20.4
Completed primary	0.0	0.3	2.2	11.1	13.2	28.6	55.2	23.7
Attended secondary or higher	4.9	1.0	1.2	16.4	26.8	68.0	55.1	8.0
Wealth tercile								
Low	0.0	0.4	3.5	8.7	12.4	23.9	54.1	21.9
Middle	0.0	1.1	3.2	6.7	10.7	19.1	50.6	24.4
High	1.5	0.8	2.1	14.1	16.7	35.5	51.7	21.3
Total	0.6	0.7	2.9	10.2	13.3	25.8	52	22.5

[a] Women who were pregnant at the time of the interview were classified as having an additional living child.
Source: 2016 Kigoma Reproductive Health Survey.

Table 3.9: Ideal Number of Children, Mean Ideal Number, and Percent Who Had More than Ideal Number, by Number of Living Children (Percent Distribution)

Women Aged 15–49 Years

	Number of Living Children [b] (%)									
	0	1	2	3	4	5	6	7	8 or more	Total
Ideal number of children										
0	0.3	0.5	0.1	0.2	1.7	1.7	1.8	2.2	3.6	1.0
1	0.2	0.5	0.0	0.5	0.1	0.1	0.0	0.0	0.0	0.2
2	2.1	1.5	1.4	0.9	0.1	0.6	0.0	0.5	0.0	1.1
3	8.2	7.1	5.4	2.4	0.8	1.6	1.1	0.6	0.6	4.3
4	12.8	16.4	16.7	8.9	5.0	2.5	3.2	1.7	1.7	9.5
5	19.6	19.7	19.8	18.5	10.7	8.4	3.2	5.6	7.8	14.8
6	11.2	14.7	13.8	24.2	22.2	11.6	12.5	5.3	6.5	13.8
7	5.3	7.2	5.8	6.4	9.8	11.8	9.0	9.9	2.1	7.0
8 or more	8.5	10.3	16.5	15.6	21.7	29.8	34.8	38.1	38.0	19.5
Fate/up to God	29.1	20.9	20.1	20.6	26.3	30.7	32.3	34.6	38.4	27.2
Not sure	2.7	1.1	0.4	1.6	1.2	1.1	1.6	1.3	1.4	1.5
Other	0.2	0.2	0.1	0.1	0.3	0.0	0.4	0.2	0.0	0.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
No. of cases	1,688	947	840	754	639	618	564	435	538	7,023
Mean ideal number [a]	5.3	5.5	5.8	6.2	6.7	7.2	7.7	8.0	8.2	6.3
Percent with more than ideal number	**0.0**	**0.4**	**0.1**	**1.7**	**3.6**	**8.5**	**12.9**	**21.8**	**39.1**	**5.9**

[a] Does not include women with non-numeric responses.

[b] Women who were pregnant at the time of the interview were classified as having an additional living child.

Source: 2016 Kigoma Reproductive Health Survey.

Table 3.10: Mean Ideal Number of Children and Percentage of All Women Who Have More than Their Ideal Number, by Age
All Women Aged 15–49 Years

	Mean Ideal Number of Children (No.) [a]				Percent with More than Ideal Number of Children (%)			
	Age Group				Age Group			
	15–29	30–39	40–49	Total	15–29	30–39	40–49	Total
Residence								
Urban	4.7	5.6	6.7	5.2	0.8	6.9	12.5	4.0
Rural	6.0	7.3	7.8	6.6	0.6	10.2	22.6	6.5
Education level								
No education	6.5	7.3	8.1	7.1	1.3	10.1	19.8	8.3
Some primary	6.1	7.5	7.3	6.6	1.2	11.4	24.9	5.8
Completed primary	5.7	6.6	7.5	6.3	0.4	9.0	20.0	6.0
Attended secondary or higher	4.6	4.6	4.2	4.6	0.0	4.9	28.7	1.3
Wealth Tercile								
Low	6.2	7.4	7.6	6.7	1.0	9.1	25.1	7.0
Middle	6.0	7.3	8.2	6.7	0.4	10.2	18.8	5.9
High	5.2	6.1	7.0	5.7	0.5	9.2	18.3	5.1
Total	**5.7**	**6.9**	**7.6**	**6.3**	**0.6**	**9.5**	**20.6**	**5.9**

[a] Does not include women with non-numeric responses.
Source: 2016 Kigoma Reproductive Health Survey.

Chapter 4: Family Planning

The 2016 Kigoma RHS collected information on women's contraceptive knowledge and use, where they obtained their contraceptive methods and how long it took them to travel to these sources, what contraceptive method they preferred, and who made the decision about using a method. The survey also looked at the level of unmet need for contraception, and asked those women who were not currently using a method whether they intended to use contraception in the future.

Some survey questions were asked of all women of reproductive age (ages 15 to 49). Other questions were addressed only to particular subgroups of women, depending on the topic; all, however, were women of reproductive age. These subgroups are:

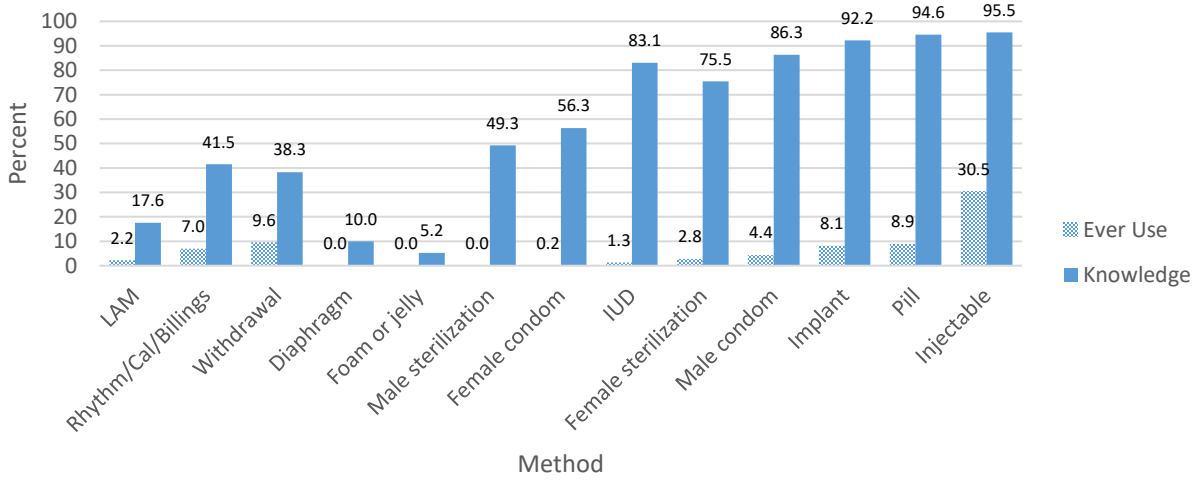
- Women in union (either married or in a less formal but recognized union).
- Sexually active women not in a formal union or in a less formal union.
- Women of reproductive age who are currently using a contraceptive method.

Contraceptive Knowledge and Ever Use

The survey asked women if they had heard of 14 specific contraceptive methods (Table 4.1). Among women in union, nearly all (97.8%) in Kigoma Region had heard of a least one method of contraception, with particularly high awareness of the injectable, the pill, and the implant (Figure 4.1). **Contraceptive knowledge** among women in union was basically unchanged between 2014 (when 97.9% had heard of at least one modern method) and 2016 (97.7%). From 2014 to 2016, knowledge increased slightly for the implant (2014: 89.5%, 2016: 92.2%), and also for the intrauterine device(IUD) (2014: 79.1%, 2016: 83.1%) and the pill (2014: 91.0%, 2016: 94.6%).

Although knowledge of contraceptives is widespread, ever use of contraceptive in Kigoma has been low (Table 4.2; see Figure 4.1 for women in union). However, the proportion of women in union who had **ever used a modern method** increased from 36.0% in 2014 to 42.7% in 2016.

Figure 4.1: Knowledge and Ever Use of Methods of Contraception, Among Women in Union, Women Aged 15–49 Years (Percent)



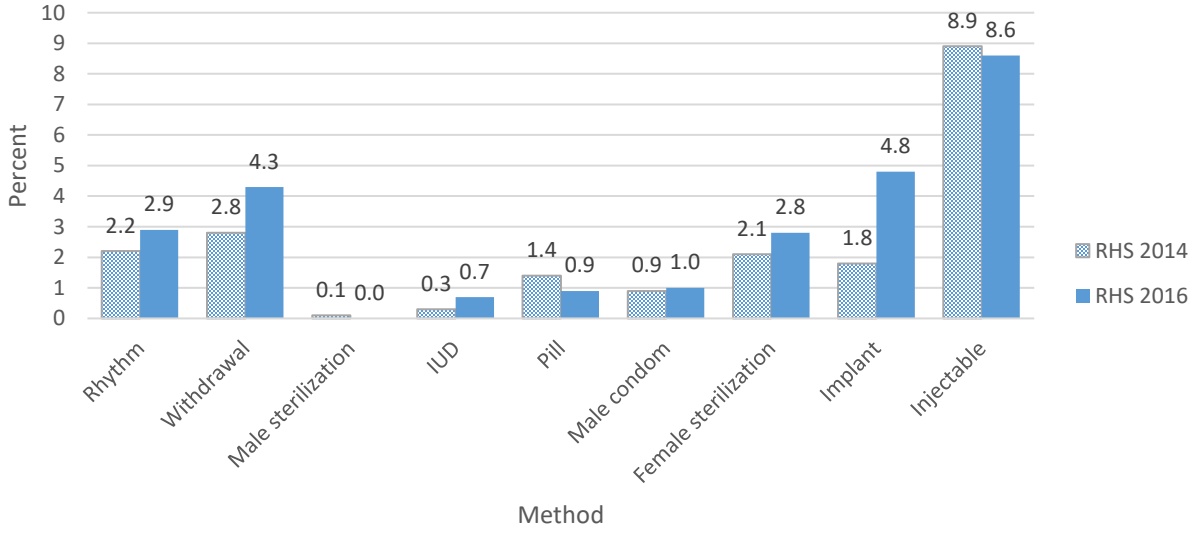
Source: 2016 Kigoma Reproductive Health Survey.

Current Use of Contraception

Current use of modern contraception is presented for all women (Table 4.3), for women in union (Table 4.4) and for sexually active women (Table 4.5). Among women in union, current contraceptive use increased overall from 15.6% in 2014 to 19.9% in 2016 (Table 4.4, Figure 4.2). The injectable remained the most popular method, with prevalence remaining at 8.6% of women in union. Remarkably, implant use more than doubled, from 1.8% of women in union in 2014 to 4.8% in 2016, and was responsible for most of the overall increase in contraceptive use. Male condom use remains low at 1.0%. The largest increase in modern contraceptive use was seen among women ages 25–29, which almost doubled, going from to 13.8% in 2014 to 26.6% in 2016. Use of traditional methods also increased, from 5.0% to 7.3%.

Current use of modern contraception also increased among all women of reproductive age, from 12.1% in 2014 (data not shown) to 15.2% in 2016 (Table 4.3). Similarly, modern method use increased among sexually active women, from 30.6 in 2014 (data not shown) to 35.9% in 2016 (Table 4.5). Further details on current use of contraception by urban/rural residence, education level, and wealth tercile are illustrated in Tables 4.3, 4.4, and 4.5, respectively, for all women of reproductive age, for women in union, and for sexually active women not in union.

Figure 4.2: Current Use of Contraception, by Method Type, Among Women in Union Aged 15–49 Years (Percent Distribution)



Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

For the 2016 RHS, a higher percentage of women in urban areas as compared to rural used contraception before the birth of their first living child, as did women with higher levels of education (Table 4.6).

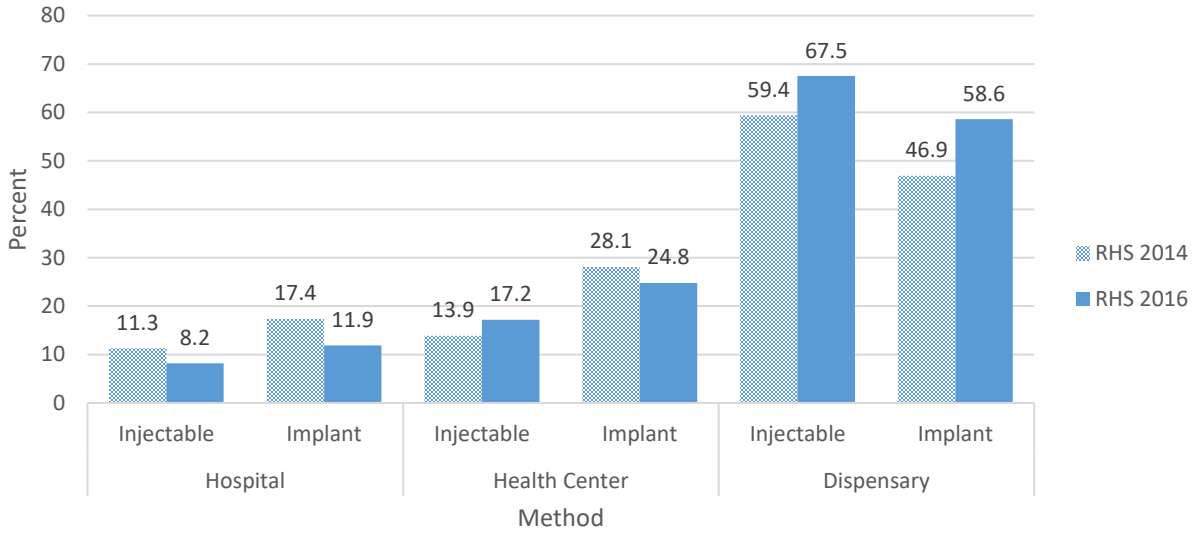
Source of Modern Contraceptive Methods

Among women currently using a modern contraceptive method, there was an increase in the proportion whose **source of contraceptive method** was a dispensary (from 47.8% in 2014 to 53.3% in 2016) or a health center (14.6% in 2014 to 18.5% in 2016), and a decrease in the proportion of users going to hospitals (2014: 17.4%, 2016: 14.8%) and private facilities (2014: 4.7%, 2016: 3.3%) for their contraceptive method or supplies (Table 4.7).

In rural areas, dispensaries were the overwhelming choice for source of supply; in 2016, 70.6% of current users of all modern methods in rural areas went to a dispensary for their method (Table 4.7). Further details on the source of contraceptive method by maternal age, education level and wealth tercile are available in Table 4.7.

Looking at source by type of contraceptive method used , the proportion of women who are currently using a modern method that get their method from dispensaries increased substantially for implant users (from 46.9% in 2014 to 58.6% in 2016), and for injectable users (from 59.4% in 2014 to 67.5% in 2016) (Table 4.8, Figure 4.3).

Figure 4.3: Source of Contraceptive Methods: Injectable and Implant, RHS 2014 and RHS 2016 (Percent Distribution)

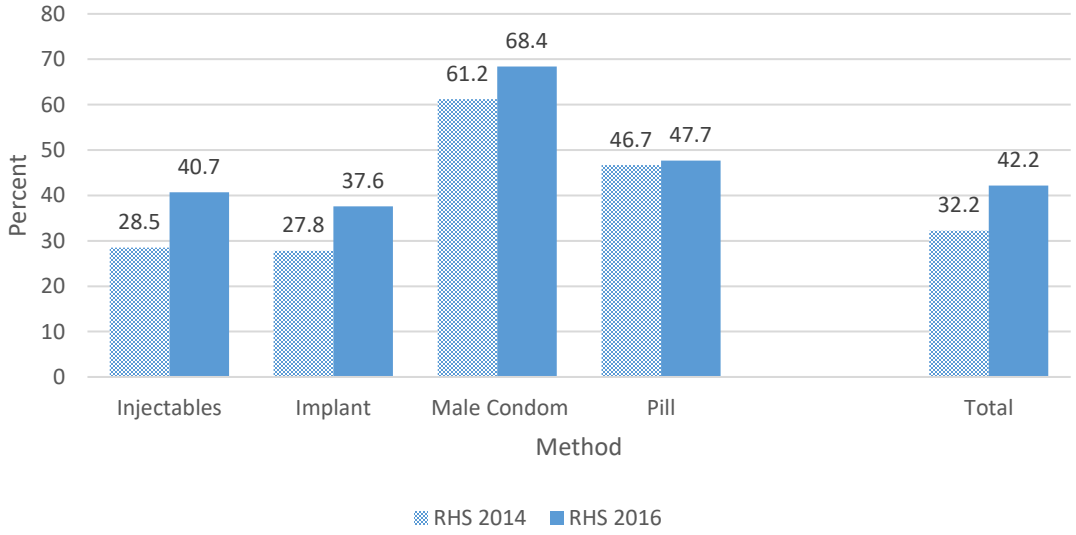


Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Time to Source of Modern Contraceptive Method

Difficulty in getting to the source of contraceptive supply is a frequently cited barrier to continued use of supply methods, or to initiating use of a long-acting reversible method. Overall, travel time for obtaining contraceptive supplies improved between 2014 and 2016 (Table 4.9, Figure 4.4); for all methods combined, the proportion of users with a short **travel time to reach a source of supply** (less than 30 minutes) increased from 32.2% (2014) to 42.2% (2016) of women using supply-based methods, and the proportion needing 30 to 59 minutes decreased. Users of the two most popular methods benefitted from shorter travel times; the proportion of users who could get to their supply source in under 30 minutes increased for injectables (2014: 28.5%, 2016: 40.7%) and for implants (2014: 27.8%, 2016: 37.6%). There was a similar increase in the proportion with less than 30 minute travel times for condoms (2014: 61.2%, 2016: 68.4%), but no change in travel times for the pill.

Figure 4.4: Able to Reach Source of Contraceptive Suppliers in Less than 30 Minutes, Among Women Who Were Current Users of Supply-Based Methods, Aged 15–49 (Percent)



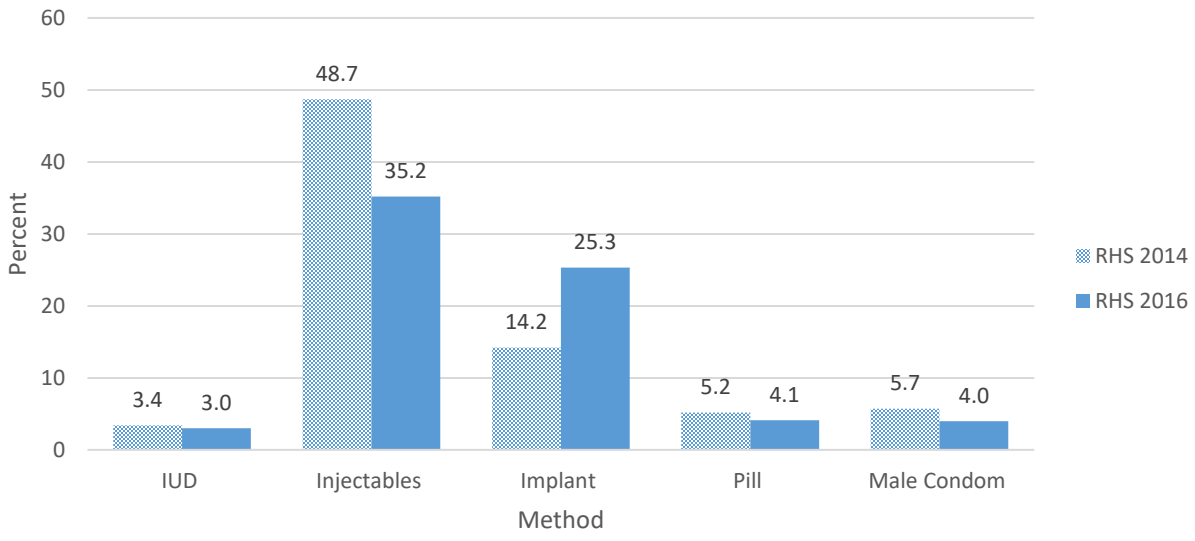
Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Findings on the **availability and convenience of family planning services** among women currently using a supply based contraceptive method, can be found in Table 4.10, and on **whether users had to pay for their method** in Table 4.11.

Preferred Contraceptive Method Among Current Users

The survey asked all women who were currently using contraception whether they would prefer to use a different method than their current one (Table 4.13), and if so, what method they would prefer to use (Table 4.12, Figure 4.5). Satisfaction with their method was high, with most women (85.1%) saying they were currently using their preferred method. Overall, the most **preferred method among current users** remains the injectable, although its popularity has fallen, from being the preferred method of almost half of users in 2014 to about one-third in 2016 (2014: 48.7%, 2016: 35.2%). Preference for most other modern methods has also fallen slightly, with the exception of the implant, whose popularity has greatly increased, from 14.2% of contraceptive users in 2014 to 25.3% in 2016. Preference for traditional methods has also increased slightly, with an increase in preference for the Lactational Amenorrhea Method (2014: 0.4%, 2016: 2.8%), although still well below the 2016 levels of preference for Rhythm (11.3%, up from 10.7% in 2014) and Withdrawal (12.3%, up from 10.1 in 2014). Table 4.13 displays the preferred method of the 14.9% of contraceptive method users who answered (in Table 4.12) that No, they did not prefer their current method.

Figure 4.5: Preferred Family Planning Method, Among Current Contraceptive Users (Percent Distribution)

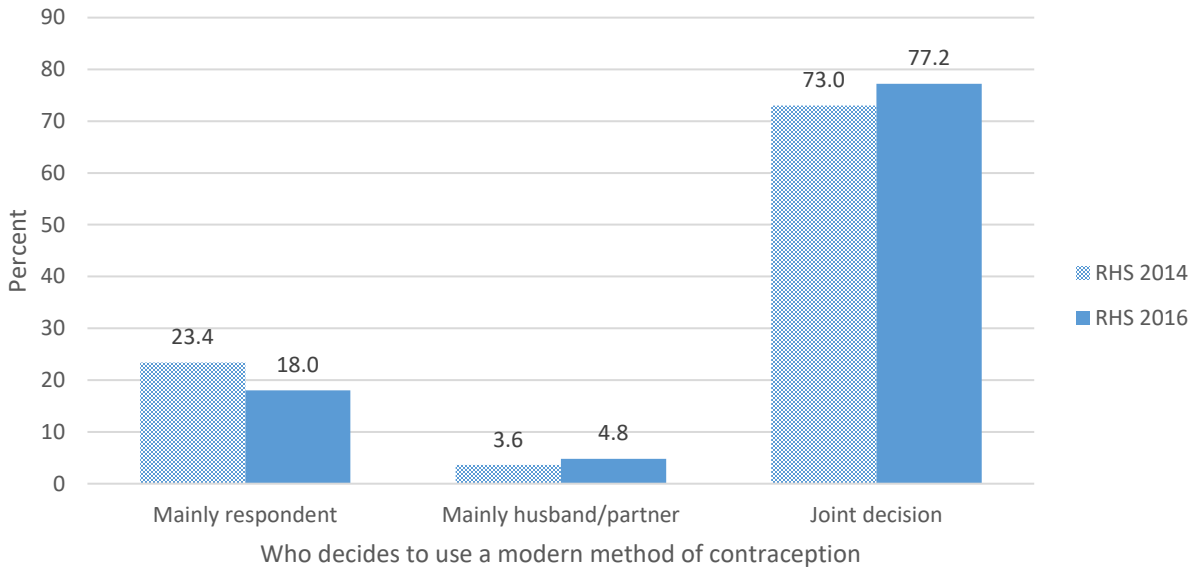


Abbreviations: IUD: intrauterine device; LAM, lactational amenorrhea method.
Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Contraceptive Decision Making Among Current Users

In Kigoma, **decisions about contraception** were largely joint decisions made by both wife and husband; 77.2% of women in union who were currently using a modern method (except tubal ligation/female sterilization) reported that they and their partner decided together about contraception (Table 4.14, Figure 4.6). This was an increase from 73.0% in 2014. The proportion of women who reported making the decision mostly on their own decreased, from 23.4% in 2014 to 18.0% in 2016.

Figure 4.6: Decision-Making Regarding Contraceptive Use (Percent Distribution)



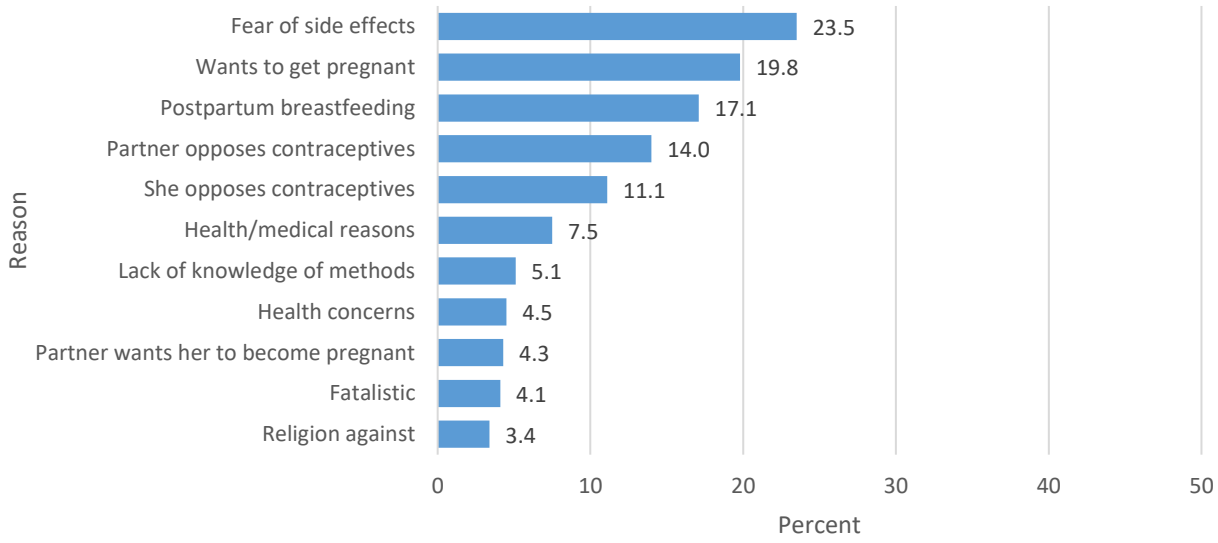
Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Further details on contraceptive decision-making among women in union who are currently using a modern method are presented in Table 4.14 by urban/rural residence, maternal age, education level, and current contraceptive method use.

Reasons for Non-Use of Contraception

Among women of reproductive age currently in a union, the majority in Kigoma (72.9%) are not using any method to prevent pregnancy (Table 4.4). The most common **reasons for not using contraception** among women in union who are at risk of pregnancy[a] but not using a method was fear of side effects (23.5%, similar to the level of 22.8% in 2014) and the desire to get pregnant (19.8%, a decrease from 23.4% in 2014) (Table 4.15, Figure 4.7). The other leading reasons for non-use are being postpartum or breastfeeding (17.1%), the woman's partner opposing using contraception (14.0%, an increase from 11.4% in 2014), and the woman herself opposing using contraception (11.1%, an increase from 7.8% in 2014). Fewer than 10% of women say their reason for not using contraception is due to health reasons, because her partner wants her to be pregnant, fatalism, or her religion is against it. Further details on reasons for not using contraception among women in union at risk for pregnancy are presented in Table 4.15 by urban/rural residence, maternal age, education level, and wealth tercile.

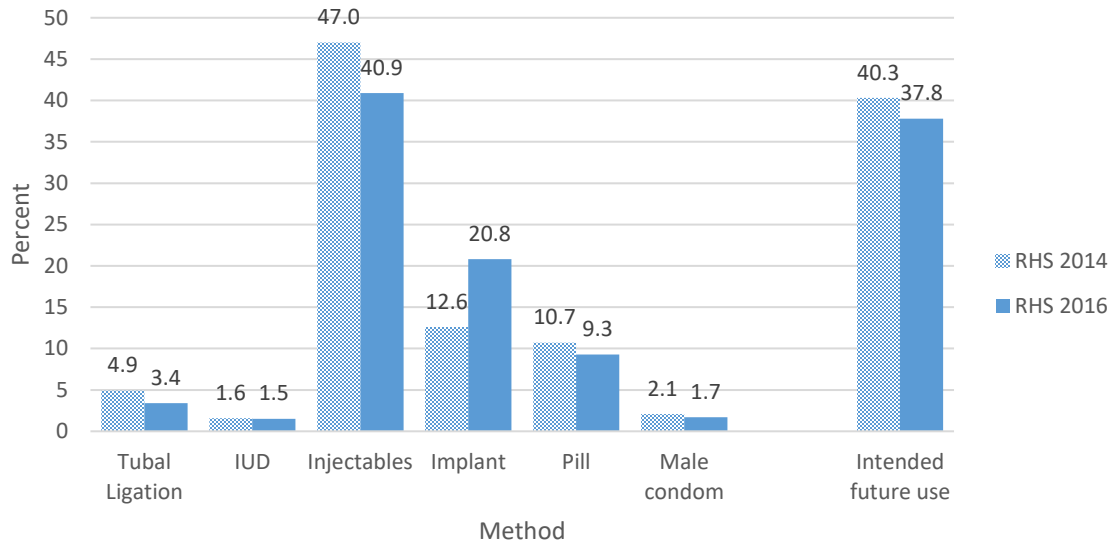
Figure 4.7: Main Reasons for Not Using Contraception Among Women in Union Aged 15–49 At Risk of Pregnancy Who Were Not Using Contraception[a] (Percent)



[a] At risk of pregnancy defined as fecund women who are not currently pregnant/amneorrheic.
Source: 2016 Kigoma Reproductive Health Survey.

Fecund women who were not using contraception at the time of the survey were asked if they thought they might use a method at some time in the future (Table 4.16, Figure 4.8). The proportion of respondents who said they **intended to use contraception** increased slightly from 37.8% in 2014 to 40.3% in 2016, with particular increases among women with 5 and 6 living children (data not shown). Among those who intend to use a method in the future, there was a decrease since 2014 in the proportion whose preferred future method was injectables (47.0% in 2014 to 40.9% in 2016) and a substantial increase in the implant as the preferred method (12.6% in 2014 to 20.8% in 2016) (Table 4.17). Intention to use the pill, tubal ligation, and condom also declined slightly. Further details on reasons for not using contraception among women in union at risk for unintended pregnancy are presented in Table 4.16 by urban/rural residence, maternal age, education level, and wealth tercile.

Figure 4.8: Intended Future Use of Contraception and Preferred Method of Future Contraception (Percent Distribution)



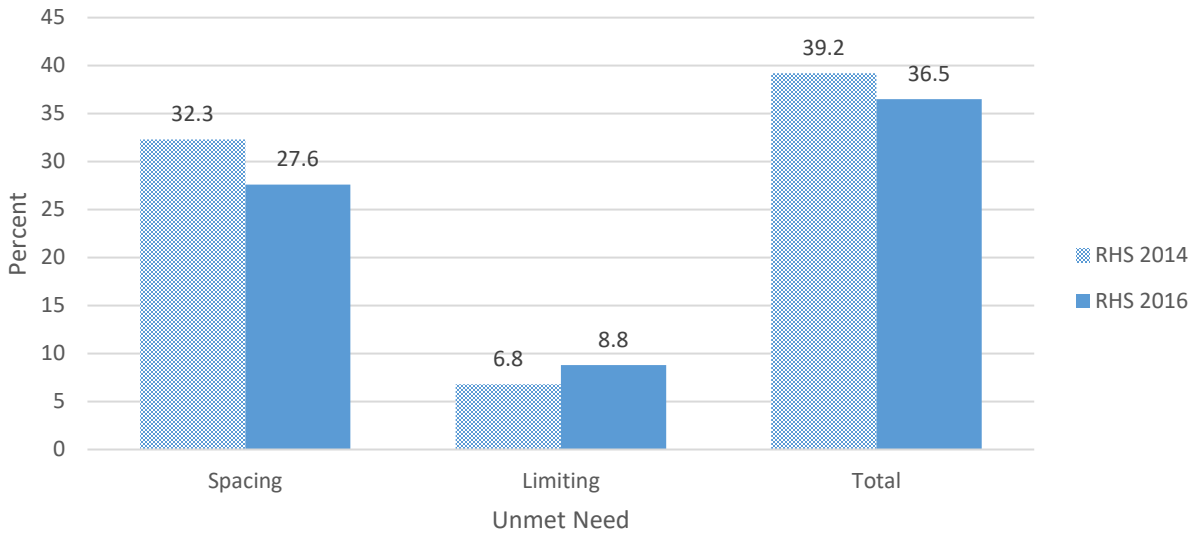
Abbreviations: IUD: intrauterine device.
Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Unmet Need for Contraception

Fecund women currently in union who indicated that they either 1) wanted to wait 2 or more years before having a(nother) child (*spacing*) or 2) wanted no more children (*limiting*), but were not currently using any method of contraception, were considered to have an **unmet need for family planning services** (Figure 4.9). There were declines in both *total* unmet need (2014: 39.2%, 2016: 36.5%) and in unmet need for *spacing* (2014: 32.3%, 2016: 27.6%), but there was a small increase in unmet need for *limiting* (2014: 6.8%, 2016: 8.8%).

Total **met need** for family planning among women in union increased, as did met need for spacing and limiting births. Total **demand** for family planning (women with unmet need combined with those with met need) also increased from 59.8% of women in union in 2014 to 63.6% in 2016 (data not shown). **Satisfied demand** for family planning (defined as total met need divided by total demand for family planning services, or the proportion of total demand that has been met) also increased (2014: 34.4%, 2016: 42.6%). Further details on unmet need for contraception among women in union are presented in Table 4.18 by urban/rural residence, maternal age, education level, and wealth tercile (Table 4.18).

Figure 4.9: Unmet Need for Family Planning Services Among Women in Union (Percent Distribution)



Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Implications for Programs

Additional health care *provider training* (including refresher training) could help to make family planning services more available, with higher quality services (providing more informative counseling and more contraceptive choices), enabling providers to meet the growing demand for contraceptive services. Training would be especially beneficial in the following areas:

- Family planning service provision (particularly in inserting and removing the implant and the IUD).
- Counseling (particularly on the safety and effectiveness of the methods, and on managing side effects).
- Managing contraceptive supplies (how to monitor their contraceptive supply levels and use, and when to place orders for more supplies to avoid stock outs).

Another approach to making family planning services more available is to *integrate* them with other routine health care services, such as with post-delivery and post-abortion care, and during postpartum checkups and immunization and well-baby visits.

Several approaches can be used to increase the currently low level of knowledge about contraceptive safety and effectiveness.

- During *counseling*, clients should be provided with full information on the effectiveness and safety of the methods, as well as on the side effects and how to manage them.
- Women currently using short-term methods (such as the injectable and pill) could benefit from information on the advantages, safety, and effectiveness of the long-lasting methods (implant and IUD).
- *Outreach service days* and *community-based education and messaging* could inform women about the full range of contraceptive methods, their safety and effectiveness, and where to obtain services.

Tables

Table 4.1: Knowledge of Contraceptive Methods, by Selected Characteristics (Percent)

All Women Aged 15–49 Years

	Knowledge of Contraceptive Methods (%)			Knowledge of Contraceptive Methods by Method (%)															Number of Women
	Modern	Traditional	Any	Tubal Ligation	Vasectomy	IUD	Injectables	Implant	Pill	Male Condom	Female condom	Diaphragm	Foam or jelly	LAM	Rhythm, Calendar, BOM	Withdrawal	Emergency contraception	Other	
Residence																			
Urban	97.4	56.2	97.5	64.4	43.0	76.6	92.1	87.4	91.7	86.8	59.5	9.2	5.0	17.0	51.6	34.3	5.6	5.4	1427
Rural	93.4	43.7	93.5	66.9	40.7	71.1	87.6	83.2	87.1	80.9	49.6	7.9	4.0	13.7	34.5	31.1	3.1	2.1	5596
Current union status																			
Currently in union	97.7	52.0	97.8	75.5	49.3	83.1	95.5	92.2	94.6	86.3	56.3	10.0	5.2	17.6	41.5	38.3	4.5	3.1	4476
Not currently in union	88.2	36.2	88.4	50.7	27.1	53.6	76.5	70.0	76.7	74.8	43.6	4.9	2.4	8.7	31.9	20.4	2.1	2.1	2547
Education level																			
No education	91.9	38.1	92	62.1	38.3	69.1	87.4	83.0	86.3	76.9	44.3	6.7	3.1	12.0	28.5	27.9	2.3	1.8	1711
Some primary	90.0	36.0	90.1	56.5	29.2	61.5	81.4	76.4	80.5	73.8	44.5	5.4	2.8	10.3	26.9	25.4	2.8	2.5	1100
Completed primary	96.0	49.6	96.2	71.7	45.5	77.2	90.9	86.9	90.8	85.6	54.7	9.2	4.9	15.8	41.3	34.3	3.9	3.1	3474
Attended secondary or higher	97.3	64.7	97.6	66.6	45.4	72.5	90.7	84.5	90.5	90.0	64.9	11.0	5.6	19.0	61.0	38.3	6.9	3.4	738
Wealth tercile																			
Low	91.2	36.3	91.4	61.8	37.4	66.7	86	81.1	85.1	77.0	45.1	6.7	3.2	12.8	27.7	26.2	2.6	1.5	2179
Middle	94.4	46.1	94.5	69.0	41.7	73	89.2	85.1	88.6	82.4	50.8	7.7	3.9	13.0	36.4	31.9	2.5	2.2	2255
High	96.5	54.9	96.7	68.0	43.8	76.3	90.1	85.6	90.0	86.1	58.0	9.8	5.2	16.9	48.2	36.4	5.4	4.3	2589
Total	**94.2**	**46.2**	**94.3**	**66.4**	**41.1**	**72.2**	**88.5**	**84.0**	**88.0**	**82.1**	**51.6**	**8.2**	**4.2**	**14.4**	**38.0**	**31.8**	**3.6**	**2.7**	**7023**

Abbreviations: BOM: Billings Ovulation Method; IUD: intrauterine device; LAM: lactational amenorrhea method.

Source: 2016 Kigoma Reproductive Health Survey.

Note: Traditional methods include rhythm/calendar/BOM, withdrawal, and other. Modern methods include the remaining methods listed.

Table 4.2: Ever Use of Contraceptive Methods, by Selected Characteristics (Percent)

All Women Aged 15–49 Years

	Ever Use of Contraceptive Methods (%)			Ever Use of Contraceptive Methods by Method (%)															
	Modern	Traditional	Any	Tubal Ligation	Vasectomy	IUD	Injectables	Implant	Pill	Male Condom	Female condom	Diaphragm	Foam or jelly	LAM	Rhythm, Calendar, BOM	Withdrawal	Emergency contraception	Other	Number of Women
Current union status																			
Currently in union	42.7	15.0	50.9	2.8	0.0	1.3	30.5	8.1	8.9	4.4	0.2	0.0	0.0	2.2	7.0	9.6	0.2	0.0	4476
Not currently in union	18.8	4.4	20.6	0.3	0.0	0.3	11.4	4.1	3.9	5.5	0.2	0.0	0.0	0.5	2.6	1.9	0.0	0.0	2547
Residence																			
Urban	47.4	14.7	52.8	1.8	0.0	2.5	28.6	11.9	11	12	0.4	0.0	0.0	2.9	10.1	6.5	0.5	1.0	1427
Rural	30.5	10.2	36.5	1.8	0.0	0.6	22.2	5.3	6.0	3.0	0.1	0.0	0.0	1.2	4.2	6.9	0.0	0.0	5596
Education level																			
No education	32.0	8.4	36.7	1.6	0.0	0.8	24.1	5.1	4.4	2.0	0.1	0.0	0.0	1.4	2.9	5.7	0.0	0.0	1711
Some primary	31.9	7.6	35.6	1.4	0.0	0.6	23.8	6.3	6.8	3.3	0.2	0.0	0.0	1.7	2.2	5.5	0.1	1.0	1100
Completed primary	35.7	12.1	42.4	2.4	0.1	1.0	24.9	7.1	8.4	4.8	0.2	0.0	0.0	1.4	5.8	7.6	0.0	0.0	3474
Attended secondary or higher	33.4	18.0	41.1	0.6	0.0	1.7	14.9	8.8	7.6	13.6	0.1	0.0	0.0	2.8	13.8	7.7	0.8	0.0	738
Wealth tercile																			
Low	28.3	7.0	32.5	1.3	0.0	0.8	20.7	5.4	4.6	2.3	0.0	0.0	0.0	1.4	2.6	4.7	0.0	0.0	2179
Middle	31.3	11.2	37.8	2.0	0.0	0.4	22.6	5.1	6.6	3	0.2	0.0	0.0	1.1	4.5	7.9	0.0	0.0	2255
High	41.1	14.6	47.8	2.1	0.0	1.6	26.6	9.1	9.6	8.5	0.3	0.0	0.0	2.1	8.5	7.6	0.3	0.0	2589
Total	**33.9**	**11.1**	**39.8**	**1.8**	**0.0**	**1.0**	**23.5**	**6.7**	**7.1**	**4.8**	**0.2**	**0.0**	**0.0**	**1.6**	**5.4**	**6.8**	**0.1**	**0.0**	**7023**

Abbreviations: BOM: Billings Ovulation Method; IUD: intrauterine device; LAM: lactational amenorrhea method.

Source: 2016 Kigoma Reproductive Health Survey.

Note: Traditional methods include rhythm/calendar/BOM, withdrawal, and other. Modern methods include the remaining methods listed.

Table 4.3: Current Use of Contraceptive Methods, by Type of Method and Selected Characteristics (Percent Distribution)

All Women Aged 15–49 Years

	Current Contraceptive Use (%)			Current Contraceptive Use by Method (%)															
	Modern	Traditional	Any	Tubal Ligation	Vasectomy	IUD	Injectables	Implant	Pill	Male Condom	Female condom	LAM	Rhythm, Calendar, BOM	Withdrawal	Other Traditional Method	Currently Not Using	Total	Number of Women
Residence																		
Urban	22.3	5.6	27.9	1.8	0.0	1.0	7.7	6.8	1.8	2.3	0.1	0.7	3.9	1.8	0.0	72.1	100.0	1427
Rural	13.4	4.8	18.2	1.8	0.0	0.3	6.0	3.2	0.4	0.8	0.0	0.7	1.7	3.0	0.1	81.8	100.0	5596
Age group																		
15–19	3.6	0.7	4.3	0.0	0.0	0.0	1.8	0.8	0.1	0.6	0.0	0.3	0.3	0.4	0.0	95.7	100.0	1645
20–24	17.1	5.1	22.2	0.0	0.0	0.4	8.5	4.8	1.2	1.5	0.0	0.8	1.9	3.0	0.2	77.8	100.0	1288
25–29	24.0	5.5	29.6	0.2	0.0	0.9	11.6	7.7	0.8	1.1	0.0	1.7	2.4	3.1	0.0	70.4	100.0	1019
30–34	21.6	8.4	29.9	1.6	0.0	0.9	8.8	6.1	1.6	2.0	0.0	0.6	3.6	4.6	0.2	70.1	100.0	960
35–39	17.6	8.4	25.9	2.2	0.0	0.7	8.0	4.4	0.4	1.1	0.1	0.7	3.7	4.7	0.0	74.1	100.0	874
40–44	18.5	5.8	24.3	8.2	0.2	0.3	4.7	2.9	0.7	1.0	0.0	0.6	2.3	3.2	0.3	75.7	100.0	740
45–49	10.8	4.4	15.2	6.8	0.2	0.0	1.2	1.6	0.4	0.4	0.0	0.2	2.1	2.1	0.2	84.8	100.0	497
Education level																		
No education	14.3	4.4	18.7	1.6	0.0	0.5	6.8	3.4	0.4	0.8	0.0	0.9	1.6	2.7	0.1	81.3	100.0	1711
Some primary	13.5	2.6	16.0	1.4	0.0	0.2	6.0	3.3	0.6	0.9	0.0	1.0	0.5	1.9	0.2	84.0	100.0	1100
Completed primary	16.2	5.5	21.6	2.4	0.1	0.4	6.7	4.3	0.8	1.0	0.0	0.6	2.3	3.1	0.1	78.4	100.0	3474
Attended secondary or higher	15.4	7.3	22.7	0.6	0.0	1.0	4.5	5.0	1.4	2.7	0.0	0.4	4.7	2.6	0.0	77.3	100.0	738
Wealth tercile																		
Low	13.0	3.1	16.2	1.3	0.0	0.4	6.4	3.2	0.3	0.5	0.0	0.9	1.1	1.9	0.1	83.8	100.0	2179
Middle	13.7	5.3	19.0	2.0	0.0	0.2	6.2	3.1	0.5	0.9	0.0	0.7	1.5	3.7	0.1	81.0	100.0	2255
High	18.4	6.2	24.6	2.1	0.0	0.6	6.5	5.4	1.3	1.9	0.0	0.6	3.5	2.6	0.0	75.4	100.0	2589
Total	**15.2**	**4.9**	**20.2**	**1.8**	**0.0**	**0.4**	**6.4**	**4.0**	**0.7**	**1.1**	**0.0**	**0.7**	**2.1**	**2.8**	**0.1**	**79.8**	**100.0**	**7023**

Abbreviations: BOM: Billings Ovulation Method; IUD: intrauterine device; LAM: lactational amenorrhea method.
Source: 2016 Kigoma Reproductive Health Survey.
Note: Traditional methods include rhythm/calendar/BOM, withdrawal, and other. Modern methods include the remaining methods listed.

Table 4.4: Current Use of Contraceptive Methods, by Type of Method and Selected Characteristics (Percent Distribution)

Women in Union Aged 15–49 Years

	Current Contraceptive Use (%)			Current Contraceptive Use by Method (%)												Total	Number of Women
	Modern	Traditional	Any	Female Sterilization/ Tubal Ligation	Male Sterilization, Vasectomy	IUD	Injectables	Implant	Pill	Male Condom	LAM	Rhythm, Calendar, BOM	Withdrawal	Other Traditional Method	Currently Not Using		
Residence																	
Urban	31.0	8.7	39.7	3.4	0.0	1.9	11.6	8.9	2.5	1.5	1.2	5.8	2.9	0.0	60.3	100.0	747
Rural	17.6	7.0	24.6	2.6	0.1	0.4	8.0	4.0	0.6	0.9	1.1	2.3	4.5	0.2	75.4	100.0	3,729
Age group																	
15–19	11.3	2.2	13.4	0.0	0.0	0.0	7.3	2.2	0.3	0.3	1.2	0.3	1.9	0.0	86.6	100.0	319
20–24	18.9	6.6	25.5	0.0	0.0	0.6	10.3	4.6	1.4	0.9	1.2	2.1	4.2	0.2	74.5	100.0	848
25–29	26.6	6.7	33.3	0.3	0.0	1.1	13.2	8.0	0.8	1.2	2.1	2.8	3.9	0.0	66.7	100.0	801
30–34	21.6	9.7	31.3	1.8	0.0	1.1	8.9	6.1	1.4	1.4	0.8	4.1	5.4	0.2	68.7	100.0	797
35–39	18.4	9.5	27.9	2.5	0.0	0.7	8.7	4.4	0.3	1.1	0.8	3.9	5.6	0.0	72.1	100.0	725
40–44	20.7	7.2	27.9	9.6	0.2	0.3	5.1	3.1	0.8	0.9	0.7	2.9	3.9	0.3	72.1	100.0	601
45–49	13.0	5.4	18.4	8.3	0.2	0.0	1.3	1.8	0.5	0.5	0.3	2.4	2.7	0.3	81.6	100.0	385
Education level																	
No education	16.6	5.8	22.4	1.8	0.0	0.6	8.0	3.7	0.5	0.8	1.1	2.0	3.6	0.1	77.6	100.0	1,320
Some primary	17.7	4.2	21.9	2.5	0.0	0.4	7.1	4.2	0.8	0.9	1.7	0.9	3.0	0.3	78.1	100.0	628
Completed primary	21.0	8.1	29.2	3.5	0.1	0.5	9.1	5.1	0.9	0.9	0.9	3.3	4.7	0.1	70.8	100.0	2,265
Attended secondary or higher	31.3	14.5	45.8	1.6	0.0	2.7	11.0	9.5	3.1	2.7	0.7	8.1	6.4	0.0	54.2	100.0	263
Wealth tercile																	
Low	16.0	4.4	20.5	1.6	0.0	0.5	8.0	3.8	0.4	0.4	1.3	1.5	2.7	0.2	79.5	100.0	1,473
Middle	19.0	8.1	27.1	3.2	0.1	0.3	8.8	4.0	0.6	1.1	1.0	2.1	5.8	0.2	72.9	100.0	1,457
High	24.3	9.3	33.6	3.5	0.1	1.1	9.1	6.6	1.6	1.4	0.9	4.9	4.3	0.1	66.4	100.0	1,546
Total	**19.9**	**7.3**	**27.1**	**2.8**	**0.0**	**0.7**	**8.6**	**4.8**	**0.9**	**1.0**	**1.1**	**2.9**	**4.3**	**0.2**	**72.9**	**100.0**	**4,476**

Abbreviations: BOM: Billings Ovulation Method; IUD: intrauterine device; LAM: lactational amenorrhea method.

Source: 2016 Kigoma Reproductive Health Survey.

Note: Traditional methods include rhythm/calendar/BOM, withdrawal, and other. Modern methods include the remaining methods listed.

Table 4.5: Current use of Contraceptive Methods, by Type of Method and by Selected Characteristics (Percent Distribution)

Sexually Active Women Not in In Union Aged 15–49

	Current Contraceptive Use (%)			Current Contraceptive Use by Method (%)									
	Modern	Traditional	Any	Female Sterilization/ Tubal Ligation	Injectables	Implant	Pill	Male Condom	Rhythm, Calendar, BOM	Withdrawal	Currently Not Using	Total	Number of Women
Residence													
Urban	44.6	8.8	53.4	0.8	8.8	12.1	6.4	16.6	6.2	2.6	46.6	100.0	109
Rural	30.1	4.4	34.5	0.6	12.7	7.7	1.8	7.4	4.4	0.0	65.5	100.0	163
Age group													
15–24	39.5	6.5	46.0	0.0	10.8	10.8	3.2	14.6	5.1	1.4	54.0	100.0	132
25–34	40.2	5.1	45.3	1.0	13.1	11.5	5.8	8.7	3.9	1.2	54.7	100.0	78
35–49	22.4	6.7	29.0	1.6	9.4	3.5	1.6	6.3	6.7	0.0	71.0	100.0	62
Wealth tercile													
Low	35.6	4.4	40.1	1.4	19.1	5.7	2.0	7.3	3.0	1.4	59.9	100.0	66
Middle	25.2	1.4	26.6	0.0	8.5	7.5	3.9	5.3	1.4	0.0	73.4	100.0	74
High	42.2	9.7	51.9	0.6	8.6	12.4	4.3	16.3	8.3	1.5	48.1	100.0	132
Total	**35.9**	**6.1**	**42.0**	**0.7**	**11.2**	**9.4**	**3.6**	**11.0**	**5.1**	**1.0**	**58.0**	**100.0**	**272**

Abbreviations: BOM: Billings Ovulation Method.

Source: 2016 Kigoma Reproductive Health Survey.

Note: Traditional methods include rhythm/calendar/BOM, withdrawal, and other. Modern methods include the remaining methods listed.

Table 4.6: Number of Living Children at First Use of Contraception, by Selected Characteristics (Percent Distribution)

Women Aged 15–49 Years Who Have Ever Used Contraception

	Number of Living Children at First Use of Contraception (%)									
	0	1	2	3	4	5	6+	Does not Remember	Total	Number of Women
Residence										
Urban	18.7	34.9	18.7	11.3	6.8	5.0	4.5	0.0	100.0	766
Rural	4.9	27.5	21.6	13.3	9.3	8.3	14.8	0.3	100.0	2,050
Age group										
15–19	38.9	50.2	9.0	0.9	0.0	0.0	0.0	0.9	100.0	103
20–24	16.6	51.1	26.5	4.9	0.9	0.0	0.0	0.0	100.0	507
25–29	9.2	35.8	25.1	16.4	8.4	4.0	0.9	0.2	100.0	563
30–34	4.8	22.9	23.1	14.3	14.8	11.9	8.0	0.2	100.0	598
35–39	3.6	20.7	16.2	13.8	11.1	10.4	24.2	0.0	100.0	480
40–44	2.9	15.4	13.8	16.3	9.2	11.9	30.5	0.0	100.0	373
45–49	4.1	11.2	17.1	15.3	9.0	11.2	30.6	1.6	100.0	192
Education level										
No education	4.2	20.0	18.9	13.7	12.9	11.6	18.6	0.1	100.0	632
Some primary	4.7	25.7	23.9	13.9	10.1	9.0	12.5	0.2	100.0	399
Completed primary	5.9	31.7	22.0	14.1	7.9	6.6	11.5	0.3	100.0	1,478
Attended secondary or higher	36.2	43.5	14.6	2.9	1.5	0.7	0.7	0.0	100.0	307
Wealth tercile										
Low	4.1	28.5	19.3	12.8	10.4	8.8	15.8	0.4	100.0	712
Middle	4.5	25.4	22.6	14.4	9.1	8.4	15.2	0.3	100.0	855
High	14.2	33.0	20.4	11.6	7.3	5.9	7.7	0.0	100.0	1,249
Total	**8.6**	**29.5**	**20.8**	**12.8**	**8.6**	**7.4**	**12.1**	**0.2**	**100.0**	**2,816**

Source: 2016 Kigoma Reproductive Health Survey.

Table 4.7: Source of Modern Contraceptives Currently Used, by Selected Characteristics (Percent Distribution)
Women Aged 15–49 Years Who Are Currently Using a Modern Method [a]

	Source of Contraceptive Method (%)												
	Kigoma Government Facility			Kigoma Private Facility	Pharmacy	NGO	VCT center	Family/friend/neighbor	Market/shop/bar	Other	Does not remember/missing	Total	Number of Women
	Hospital	Health Center	Dispensary										
Residence													
Urban	28.0	37.7	13.5	5.7	10.4	0.0	0.6	0.0	1.3	2.2	0.6	100.0	313
Rural	9.1	10.1	70.6	2.2	5.5	0.3	0.0	0.1	1.0	0.7	0.4	100.0	720
Age group													
15–19	3.6	15.3	60.5	0.0	17.1	0.0	0.0	0.0	3.5	0.0	0.0	100.0	53
20–24	11.0	19.0	53.1	4.2	8.0	0.9	0.0	0.0	1.8	1.9	0.0	100.0	211
25–29	7.2	22.5	59.8	2.5	4.5	0.0	0.4	0.0	0.9	1.7	0.4	100.0	226
30–34	15.8	12.9	56.0	2.5	9.3	0.0	0.5	0.0	0.5	1.5	0.9	100.0	207
35–39	13.6	22.1	52.9	2.6	6.0	0.0	0.0	0.6	0.7	0.7	0.7	100.0	152
40–44	29.9	16.6	42.4	6.1	4.9	0.0	0.0	0.0	0.0	0.0	0.0	100.0	130
45–49	37.0	17.8	35.5	3.6	2.0	0.0	0.0	0.0	1.9	0.0	2.1	100.0	54
Education level													
No education	11.9	18.5	62.2	0.4	5.4	0.0	0.0	0.0	0.5	0.4	0.8	100.0	233
Some primary	10.9	30.1	48.2	4.4	4.2	0.7	0.0	0.0	0.7	0.7	0.0	100.0	141
Completed primary	16.1	15.9	55.2	3.7	7.0	0.2	0.0	0.2	0.8	0.6	0.4	100.0	547
Attended secondary or higher	19.4	16.5	31.8	5.5	13.6	0.0	1.7	0.0	4.4	6.3	0.9	100.0	112
Wealth tercile													
Low	8.0	16.5	67.5	0.7	4.3	0.4	0.0	0.3	0.8	1.2	0.3	100.0	269
Middle	12.7	13.1	64.0	2.6	5.5	0.3	0.0	0.0	0.7	0.7	0.4	100.0	294
High	20.1	23.0	38.1	5.1	9.6	0.0	0.4	0.0	1.5	1.5	0.6	100.0	470
Total	**14.8**	**18.5**	**53.3**	**3.3**	**7.0**	**0.2**	**0.2**	**0.1**	**1.1**	**1.2**	**0.5**	**100.0**	**1,033**

Abbreviations: NGO: non-governmental organization; VCT: voluntary counseling and testing.
Source: 2016 Kigoma Reproductive Health Survey.
[a] Excludes lactational amenorrhea method.

Table 4.8: Source of Modern Contraceptives, by Type of Method (Percent Distribution)

Women Aged 15–49 Years Who Are Currently Using a Modern Method [a]

	Current Method Used (%)						
Source of Contraception	**Female Sterilization**	**Injectable**	**Implant**	**Pill**	**Male Condom**	**Other Modern**	**Total**
Kigoma Government Hospital	52.1	8.2	11.9	9.8	4.9	14.5	14.8
Kigoma Government Health Center	17.8	17.2	24.8	15.9	2.7	26.5	18.5
Kigoma Government Dispensary	25.1	67.5	58.6	30.4	22.4	35.8	53.3
Kigoma private facility	5.1	2.1	1.7	14.6	1.1	11.5	3.3
Pharmacy	.0.0	3.6	0.0	29.3	49.8	3.1	7
Other	0.0	1.4	3	0.0	19.0	8.6	3.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Number of women	**132**	**451**	**284**	**52**	**79**	**35**	**1,033**

Source: 2016 Kigoma Reproductive Health Survey.
[a] Excludes lactational amenorrhea method.

Table 4.9: Time to Reach Source of Contraceptive Supplier, Among Supply-Based MethodUsers by Type of Method (Percent Distribution)

Women Aged 15–49 Who Are Currently Using Supply-Based Contraceptive Methods

	Current Contraceptive Method Used (%)						
Length of Time	**IUD**	**Injectables**	**Implant**	**Pill**	**Male Condom**	**Female Condom**	**Total**
<30 min	29.6	40.7	37.6	47.7	68.4	[a]	42.2
30–59 min	37.3	42.8	40.2	42.4	17.3	[a]	39.5
1–2 hr	27.0	12.7	16.4	9.9	9.0	[a]	13.8
2–3 hr	6.1	2.5	3.3	0.0	1.4	[a]	2.6
More than 3 hrs	0.0	0.4	1.4	0.0	1.2	[a]	0.8
Unsure/don't know	0.0	1.0	1.1	0.0	2.7	[a]	1.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**		**100.0**
No. of cases	**30**	**448**	**275**	**52**	**76**	**1**	**882**

Source: 2016 Kigoma Reproductive Health Survey.
[a] Fewer than 25 cases.

Table 4.10: Availability and Convenience of Family Planning Services at Kigoma Government Facilities (Percent Distribution)

Women Aged 15–49 Years Who Were Currently Using a Supply-Based Contraceptive Method [a] Obtained at a Government Facility

Government Family Planning Services Availability	Availability (%)
Available at any time	75.1
Certain times: Convenient	11.8
Certain times: Inconvenient	13.1
Total	**100.0**
Number of women	**767**

Source: 2016 Kigoma Reproductive Health Survey.
[a] Includes all modern contraceptive methods except sterilization and lactational amenorrhea method.

Table 4.11: Payment for Contraceptive Method Among Supply-Based Method[a] Users, by Type of Method (Percent Distribution)

Women Aged 15–49 Years Who Are Currently Using Supply-Based Contraceptive Methods

	Current Contraceptive Method Used (%)					
Paid for Contraceptive Method	**IUD**	**Injectables**	**Implant**	**Pill**	**Male Condom**	**Total**
Yes	16.8	8.9	8.3	32.9	67.5	15.5
No	83.2	91.1	91.7	67.1	32.5	84.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women [c]	**30**	**446**	**275**	**52**	**75**	**879**

[a] Includes all modern contraceptive methods except sterilization and lactational amenorrhea method.
[b] Fewer than 25 cases.
[c] Excludes 3 cases (Unsure).
Source: 2016 Kigoma Reproductive Health Survey.

Table 4.12: Preferred Family Planning Method, Among Current Users (Percent Distribution) [a]

Women Aged 15–49 Who Are Currently Using Contraception

	Total (%)
Prefer current method	
No	14.9
Yes	85.1
Preferred method	
Female sterilization, tubal ligation	1.3
Male sterilization, vasectomy	0.2
IUD	3.0
Injectables	35.2
Implant	25.3
Pill	4.1
Male Condom	4.0
LAM	2.8
Rhythm	11.3
Withdrawal	12.3
Other modern method	0.2
Other traditional method	0.5
Total	**100.0**
No. of cases	**1,293**

[a] Excludes 134 users of male/female sterilization.
Source: 2016 Kigoma Reproductive Health Survey.

Table 4.13: Preferred Family Planning Method, Among All Current Users [a] Who Would Prefer a Different Method (Percent Distribution)

Women aged 15–49 Who Are Current Contraceptive Users and Would Like to Use a Different Method

	Total (%)
Preferred method	
Female sterilization, tubal ligation	8.7
Male sterilization, vasectomy	1.5
IUD	5.5
Injectables	29.5
Implant	37.6
Pill	5.6
Male Condom	1.5
Foam/Jelly	0.5
Rhythm	8.8
Withdrawal	0.8
Total	**100.0**
No. of cases	**190**

Source: 2016 Kigoma Reproductive Health Survey.
[a] Excludes users of male/female sterilization.

Table 4.14: Decision Making Regarding Contraceptive Method Use (Percent Distribution)

Women in Union Aged 15–49 Years Who Are Currently Using a Modern Method[a]

	Who Decides to Use a Modern Method of Contraception (%)				
	Mainly respondent	Mainly husband/partner	Joint decision	Total	Number of Women [b]
Residence					
Urban	19.2	5.8	75.0	100.0	198
Rural	17.6	4.4	78.0	100.0	519
Age group					
15–19	6.7	2.9	90.4	100.0	31
20–24	17.1	5.7	77.2	100.0	150
25–29	17.7	5.5	76.8	100.0	190
30–34	21.6	4.1	74.3	100.0	155
35–39	14.8	3.7	81.5	100.0	113
40–44	22.3	6.0	71.6	100.0	62
45–49	[c]	[c]	[c]	100.0	16
Education level					
No education	22.1	4.0	73.9	100.0	180
Some primary	14.8	2.4	82.8	100.0	85
Completed primary	16.4	6.1	77.5	100.0	376
Attended secondary or higher	19.9	2.8	77.3	100.0	76
Current contraceptive use					
IUD	19.7	3.4	76.9	100.0	31
Injectables	19.0	4.9	76.1	100.0	385
Implant	17.7	4.1	78.2	100.0	219
Pill	26.4	5.3	68.3	100.0	40
Male Condom	2.2	7.2	90.6	100.0	42
Total	**18.0**	**4.8**	**77.2**	**100.0**	**717**

Source: 2016 Kigoma Reproductive Health Survey.

[a] Excludes users of male/female sterilization.

[b] Excludes 2 cases who did not answer the question about contraceptive decision making.

[c] Fewer than 25 cases.

Table 4.15: Reasons for Non-Use of Contraceptives (Percent)

Women Aged 15–49 Years at Risk of Pregnancy [a] and Not Currently Using Contraception [b]

	Wants to Get Pregnant	Health/medical Reasons	She Opposes Contraceptives	Partner opposes Contraceptives	Partner Wants Her to Become Pregnant	Health concerns	Fear of Side Effects	Source Far Away	Lack of knowledge of Methods	Lack of Knowledge of Source	Lack of Access/Too Far	Cannot Afford Cost	Provider/pharmacist will not give them	Religion Against	Fatalistic	Other	Not sure	No sexual relations	Postpartum/ breastfeeding	Number of Women
Residence																				
Urban	16.5	5.0	6.6	5.5	2.9	3.5	10.3	0.0	4.1	0.0	0.0	0.0	0.2	3.4	1.6	2.7	1.4	49.8	7.6	609
Rural	10.5	4.4	8.4	8.3	2.2	2.7	16.2	0.7	5.3	0.2	0.7	0.2	0.3	2.6	2.6	1.1	2.3	37.3	10.8	2,487
Age group																				
15–19	7.7	0.3	3.4	1.6	1.2	0.4	4.0	0.5	8.3	0.3	0.4	0.1	0.2	1.8	0.1	0.9	1.8	74.8	4.6	917
20–24	15.0	2.6	8.9	12.9	3.2	2.0	15.3	0.3	4.6	0.0	0.6	0.1	0.0	2.5	1.4	0.2	2.5	34.8	14.0	583
25–29	15.3	3.3	8.7	11.1	3.0	3.0	17.5	1.0	3.8	0.2	1.4	0.0	0.4	2.4	4.5	2.0	2.7	26.2	15.9	409
30–34	16.9	7.4	8.3	9.7	2.8	5.1	21.7	1.0	3.1	0.0	0.5	0.2	0.9	1.8	2.8	2.0	1.7	17.0	14.9	384
35–39	10.4	7.5	12.0	6.8	2.1	4.2	26.9	0.6	2.0	0.0	0.5	0.3	0.3	5.1	4.2	1.9	2.1	17.0	12.2	366
40–44	10.9	13.6	12.1	9.6	4.1	6.1	22.4	0.7	4.3	0.0	0.3	0.3	0.0	4.3	5.2	2.2	2.6	18.3	7.4	305
45–49	5.8	9.6	14.5	12.5	0.8	7.0	17.0	0.0	4.3	0.0	0.7	0.0	0.0	5.7	4.6	3.1	1.6	28.7	2.4	132
Current union status																				
Currently in union	19.8	7.5	11.1	14.0	4.3	4.5	23.5	0.7	5.1	0.1	1.0	0.3	0.4	3.4	4.1	1.7	2.5	3.3	17.1	1,679
Not currently in union	2.3	1.0	4.5	0.5	0.1	1.0	5.2	0.5	5.1	0.2	0.1	0.0	0.1	2.0	0.4	1.0	1.7	82.0	2.1	1,417
Education level																				
No education	13.5	5.7	10.1	10.7	3.4	3.7	19.0	0.7	7.5	0.2	1.0	0.1	0.0	3.9	2.7	1.1	3.1	24.6	11.4	756
Some primary	9.4	4.7	7.7	8.1	2.0	3.8	12.2	0.6	6.1	0.0	1.3	0.4	0.0	2.8	2.0	1.6	3.0	42.7	11.3	474
Completed primary	11.7	4.6	8.3	7.4	2.3	2.6	16.1	0.7	4.3	0.1	0.3	0.1	0.5	2.6	2.7	1.4	1.7	39.0	10.7	1,519
Attended secondary or higher	11.0	1.5	3.0	2.5	1.2	0.9	5.8	0.0	1.9	0.0	0.0	0.0	0.0	1.3	1.1	1.7	0.9	71.9	3.3	347
Wealth tercile																				
Low	11.7	5.1	9.5	9.1	2.5	2.7	15.1	0.9	6.8	0.2	1.0	0.3	0.1	1.9	2.1	0.7	2.8	34.1	14.1	1,041
Middle	10.4	3.4	8.6	7.3	1.8	3.0	16.5	0.6	4.2	0.2	0.7	0.1	0.4	2.7	3.0	1.2	2.1	39.3	8.1	959
High	13.0	4.9	6.1	6.8	2.8	3.0	13.7	0.3	4.3	0.0	0.1	0.1	0.2	3.7	2.1	2.2	1.6	45.6	8.2	1,096
Total	**11.7**	**4.5**	**8.0**	**7.8**	**2.4**	**2.9**	**15.0**	**0.6**	**5.1**	**0.1**	**0.6**	**0.1**	**0.3**	**2.8**	**2.4**	**1.4**	**2.1**	**39.8**	**10.2**	**3,096**

Source: 2016 Kigoma Reproductive Health Survey.

[a] At risk of pregnancy defined as fecund, who are not currently pregnant/amenorrheic.

[b] 1 case missing.

Respondents could answer more than one reason.

Table 4.16: Intended Future Use of Contraception, by Number of Living Children (Percent)

Women aged 15–49 Years Who are Fecund, Current Non-Contraceptive Users[a]

	Thinks She will Use Contraception in the Future (%)	Number of Women
No. of living children		
0	32.6	1,765
1	51.3	690
2	48.4	514
3	47.1	473
4	42.5	410
5	41.9	359
6	42.9	351
7	36.5	251
8 or more	31.0	275
Total	**40.3**	**5,088**

Source: 2016 Kigoma Reproductive Health Survey.

[a] includes women not in union and not sexually active

Table 4.17: Preferred Method of Future Contraception, by Selected Characteristics (Percent Distribution)

Women Aged 15–49 Years Who Are Fecund, Current Non-Contraceptive Users and Who Think They Will Use a Method in the Future

	Preferred Method (%)													
	Tubal Ligation	Vasectomy	IUD	Injectables	Implant	Pill	Male condom	Female condom	Rhythm	Withdrawal	Other Traditional Method	Undecided	Total	Number of Women
Residence														
Urban	2.1	0.0	1.8	30.8	25.5	13.5	4.1	0.0	7.4	0.2	0.2	14.4	100.0	440
Rural	3.7	0.1	1.5	43.6	19.6	8.2	1.0	0.3	3.9	1.9	0.3	16.1	100.0	1,610
Age group														
15–19	0.7	0.2	1.3	32.2	18.3	14.8	2.7	0.5	3.7	0.6	0.4	24.8	100.0	535
20–24	0.2	0.0	1.9	47.0	23.2	7.6	2.1	0.2	4.8	0.6	0.0	12.3	100.0	493
25–29	1.1	0.3	1.9	45.8	23.2	7.3	1.2	0.0	4.6	2.9	0.8	10.9	100.0	345
30–34	4.3	0.0	1.8	45.1	20.7	8.1	0.7	0.0	4.8	1.8	0.0	12.7	100.0	316
35–39	9.2	0.0	0.8	40.4	21.6	6.0	0.0	0.0	5.7	3.8	0.4	12.0	100.0	227
40–44	19.3	0.0	0.8	31.8	15.5	5.3	1.8	0.0	6.5	0.0	0.0	18.9	100.0	112
45–49	24.3	0.0	0.0	37.4	12.6	8.6	4.3	0.0	4.3	4.3	0.0	4.2	100.0	22
Education level														
No education	5.1	0.4	1.3	45.1	25.1	4.6	0.6	0.0	1.4	2.8	0.2	13.3	100.0	422
Some primary	3.1	0.0	0.6	46.3	18.9	10.2	2.0	0.3	2.9	0.7	0.3	14.7	100.0	317
Completed primary	3.5	0.0	1.8	42.2	20.2	9.6	1.3	0.1	4.1	1.6	0.4	15.2	100.0	1,019
Attended secondary or higher	0.5	0.0	2.0	24.0	18.6	14.1	4.4	0.7	13.1	0.4	0.0	22.2	100.0	292
Wealth tercile														
Low	4.4	0.2	0.8	44.2	23.1	8.3	1.0	0.0	1.6	1.3	0.5	14.7	100.0	608
Middle	3.9	0.0	2.3	44.4	17.6	7.9	1.2	0.3	4.4	2.2	0.2	15.7	100.0	679
High	2.0	0.1	1.5	35.0	21.8	11.4	2.6	0.3	7.3	1.2	0.2	16.6	100.0	763
Total	**3.4**	**0.1**	**1.5**	**40.9**	**20.8**	**9.3**	**1.7**	**0.2**	**4.6**	**1.5**	**0.3**	**15.7**	**100.0**	**2,050**

Source: 2016 Kigoma Reproductive Health Survey.

Table 4.18: Unmet Need, Met Need, and Demand for Family Planning Services, by Selected Characteristics (Percent)

Women in Union Aged 15–49 Years

	Unmet Need for Family Planning			Meet Need for Family Planning			Total Demand for Family Planning			Satisfied Demand[a]	Number of Women
	Spacing	Limiting	Total	Spacing	Limiting	Total	Spacing	Limiting	Total	Total	
Residence											
Urban	21.1	8.0	29.1	29.9	9.8	39.7	51.0	17.7	68.8	57.7	747
Rural	28.9	9.0	37.9	17.7	7.0	24.6	46.6	16.0	62.5	39.4	3,729
Education level											
No education	30.2	10.0	40.1	15.8	6.5	22.4	46.0	16.5	62.5	35.8	1,320
Some primary	29.2	10.8	40.0	16.5	5.4	21.9	45.7	16.2	62.0	35.3	628
Completed primary	26.1	8.4	34.5	20.6	8.6	29.2	46.6	17.0	63.7	45.8	2,265
Attended secondary or higher	24.7	1.7	26.4	39.2	6.6	45.8	63.8	8.3	72.1	63.5	263
Wealth tercile											
Low	30.6	10.0	40.6	15.1	5.4	20.5	45.6	15.4	61.0	33.6	1,473
Middle	27.7	9.2	36.9	18.6	8.5	27.1	46.3	17.7	64.0	42.3	1,457
High	24.7	7.3	32.1	25.2	8.4	33.6	49.9	15.7	65.7	51.1	1,546
Age group											
15–19	27.0	3.0	30.0	13.1	0.3	13.4	40.1	3.4	43.5	30.8	319
20–24	34.2	2.7	36.9	25.2	0.3	25.5	59.4	3.0	62.4	40.9	848
25–29	32.0	4.6	36.6	32.0	1.2	33.3	64.0	5.9	69.9	47.6	801
30–34	31.5	6.4	37.9	25.0	6.3	31.3	56.5	12.7	69.2	45.2	797
35–39	29.0	13.5	42.5	16.6	11.3	27.9	45.7	24.8	70.5	39.6	725
40–44	19.2	19.3	38.5	6.7	21.2	27.9	25.9	40.5	66.4	42.0	601
45–49	7.0	16.2	23.2	2.1	16.3	18.4	9.1	32.5	41.6	44.2	385
No. of living children											
0	27.3	0.6	27.9	0.9	0.0	0.9	28.2	0.6	28.8	3.1	310
1	30.1	2.0	32.1	24.9	0.5	25.3	55.0	2.4	57.4	44.1	587
2	30.1	3.6	33.7	31.3	1.6	32.9	61.4	5.2	66.6	49.4	620
3	28.1	4.4	32.6	29.3	4.5	33.8	57.4	9.0	66.4	50.9	602
4	33.3	7.6	41.0	24.8	5.9	30.7	58.1	13.5	71.6	42.9	517
5	29.3	9.5	38.9	19.9	11.5	31.4	49.3	21.0	70.3	44.7	498
6	27.6	12.1	39.7	16.2	13.3	29.5	43.8	25.3	69.1	42.7	494
7	23.4	18.2	41.6	10.4	13.3	23.7	33.8	31.5	65.3	36.3	378
8 or more	15.9	25.4	41.3	3.4	19.6	23.0	19.3	45.0	64.3	35.8	470
Total	**27.6**	**8.8**	**36.5**	**19.7**	**7.4**	**27.1**	**47.3**	**16.3**	**63.6**	**42.6**	**4,476**

Source: 2016 Kigoma Reproductive Health Survey.

a. Satisfied demand = total met need divided by total demand for family planning services.

Chapter 5: Maternal and Perinatal Health

High quality maternal and perinatal health services are essential to reducing maternal and neonatal mortality. This chapter presents findings related to maternal and perinatal health in Kigoma, including information on the use of antenatal, maternity, and postnatal care services. These findings can be used to identify problem areas; determine needed interventions; and set program priorities, targets, and goals to improve maternal and perinatal health outcomes.

Antenatal Care

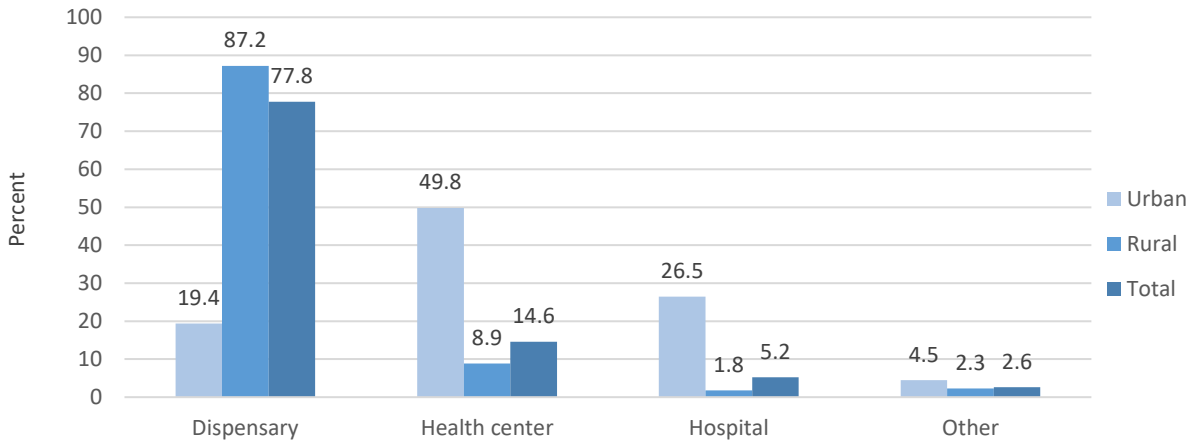
Antenatal care (ANC) is essential for preventing and treating conditions that may cause complications in pregnancy and affect the health of the mother and her fetus. The World Health Organization (WHO) ANC guidance recommends that all pregnant women have at least four ANC assessments starting as early in pregnancy as possible.[1] The 2016 Kigoma RHS collected information on ANC attendance, timing, and location, and the content of the services provided for 3,526 live births and stillbirths that took place between January 2014 and the date of the RHS interview in July–September 2016.

Antenatal Care Coverage

The high **level of ANC** remained relatively unchanged from 2014. As in the 2014 Kigoma RHS, in 2016, virtually all women attended at least one ANC visit (98.7%) (Table 5.1). However, few women received **ANC in the first trimester** (2016 RHS: 15.6%) as recommended by the WHO guidelines; this shows little change since 2014, when 17.0% reported receiving ANC care in the first trimester. The proportion of women with the recommended **4 or more ANC visits** remained relatively unchanged; 42.1% in 2014 vs. 43.1% in 2016. Further details on the receipt of ANC by urban/rural residence, maternal age at birth, education level, wealth tercile and year of pregnancy completion are presented in Table 5.1.

In urban settings, more women went to hospitals (26.5%) and health centers (49.8%) for ANC (Figure 5.1, Table 5.2). However, a higher percentage of women in rural settings went to dispensaries for ANC (87.2%). A greater percentage of women with higher wealth status went to hospitals and health centers for ANC compared to those with middle or low wealth status (High: 32.7%, Middle: 13.3%, Low: 14.9%) Further details on the place of ANC by maternal age at birth, education level, and year of pregnancy completion are presented in Table 5.2.

Figure 5.1: Location of Antenatal Care Among Women Aged 15–49 Years, for Births Since January 2014, by Residence (Percent Distribution)



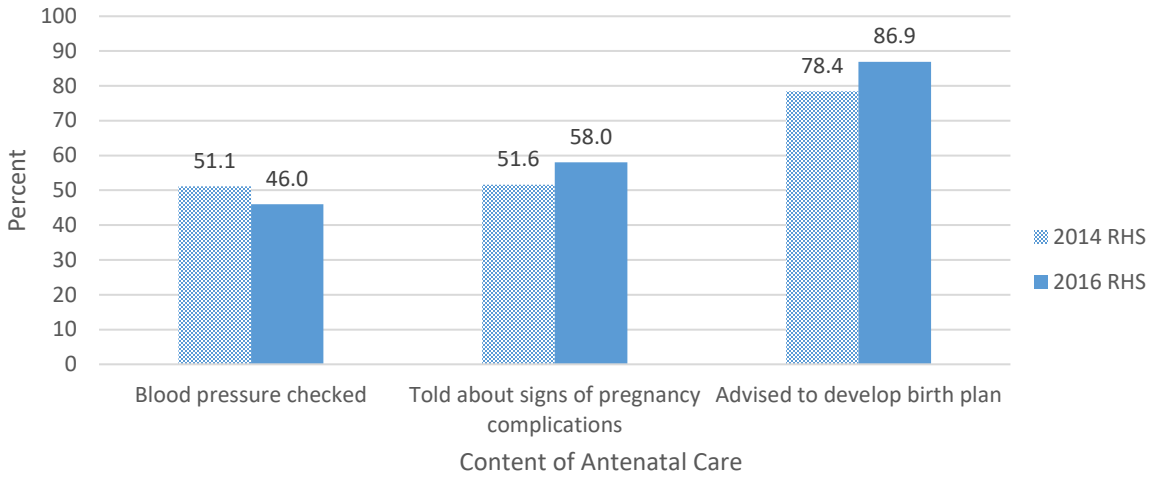
Source: 2016 Kigoma Reproductive Health Survey.

Antenatal Care Components

It is important to evaluate the quality of ANC services provided to pregnant women, given the crucial role such care can play in preventing pregnancy complications. To assess one aspect of quality, the Kigoma RHS collected information about the services women received in ANC visits for their most recent three births since January 2014.

Fewer than half of all women reported having their **blood pressure checked** (46.0%; Table 5.3a), which is a decline from 2014 (51.1%; Figure 5.2). As in 2014, in 2016 a higher proportion of women in urban settings reported having their blood pressure checked (73.9%) when compared to rural (41.5%). More women in 2016 than 2014 reported being instructed about **signs of pregnancy complications** (51.6% in 2014 vs. 58.0% in 2016). The survey indicated that most women were advised to develop a **birth plan** in 2016 (86.9%), an increase from 2014 (78.4%). A higher proportion of urban as compared to rural women (93.0% vs. 85.9%), those with some secondary versus lower levels of education (91.9% vs. 80.9%-90.1%), and those with higher vs low to middle wealth status (90.3% vs. 85.0%-85.9%) reported receiving birth plan advice.

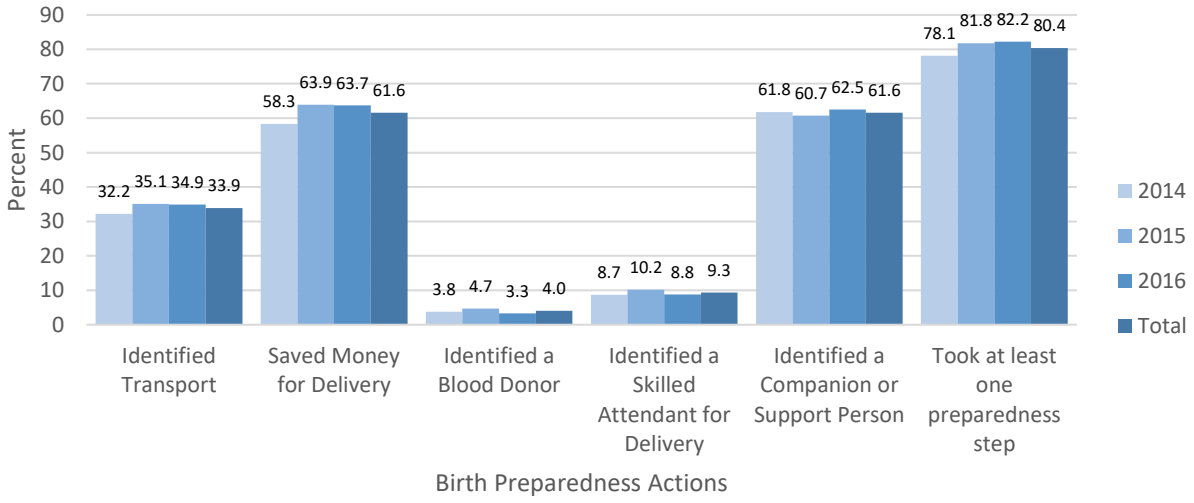
Figure 5.2: Content of Antenatal Care Received for Births Since 2009 (RHS 2014) and Births Since 2014 (RHS 2016)



Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Birth preparedness can help to improve both the quality of the birth experience and the outcome, and to reduce delays if complications occur. On average for all births from January 2014 through the 2016 survey, 80.4% of women took at least one of six **steps toward birth preparedness** (Table 5.3b, Figure 5.3). The steps include identifying a birth companion or support person (61.6%), saving money (61.6%), and identifying a means of transport (33.9%). Further detail on birth preparation by urban/rural residence, maternal age, education level and wealth tercile are presented in Table 5.3b. When comparing preparedness between 2014 and 2016, there were small increases noted in the proportion of women reporting that they identified transport, saved money, identified a support person, and took at least one preparedness step (Figure 5.3).

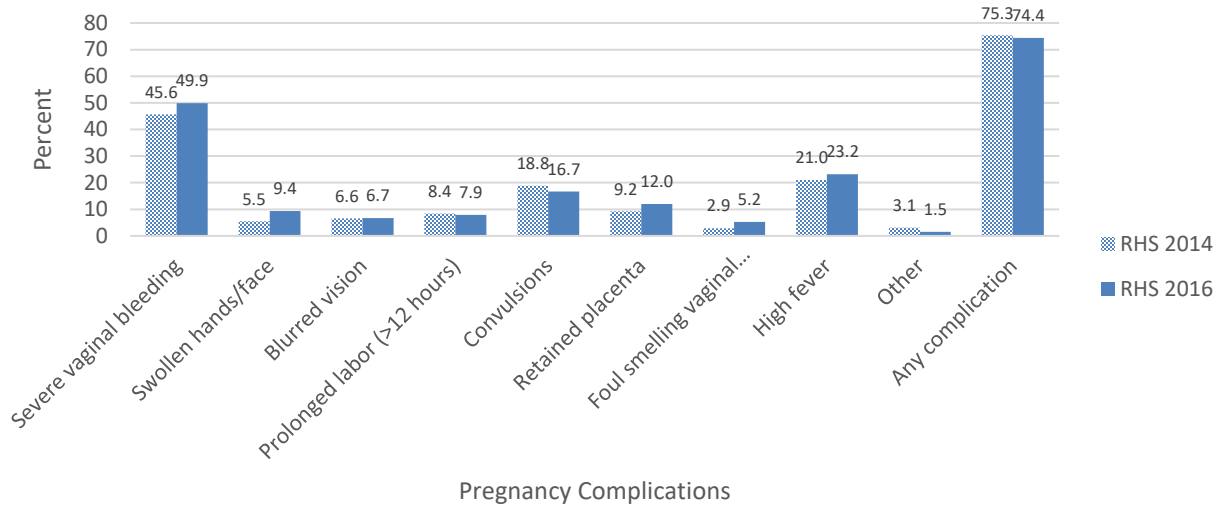
Figure 5.3: Birth Preparedness Actions Among Women Receiving Antenatal Care, Women Aged 15–49 Years, Most Recent Births Since January 2014, by Year and Total (Percent)



Source: 2016 Kigoma Reproductive Health Survey.

The majority of maternal deaths are caused by direct obstetric complications. Early recognition of complications is essential in order to seek care in a timely fashion. In the Kigoma RHS, women were asked an open-ended question about these complications. Among women who received ANC, almost three in four (74.4%) reported being **aware of at least one pregnancy complication**; half mentioned that severe vaginal bleeding was a danger sign during pregnancy (49.9%), followed by high fever during pregnancy (23.2%), but very few mentioned other danger signs or complications (Table 5.3c). Compared to 2014, in 2016, a greater proportion of women reported awareness of severe vaginal bleeding, swollen hands/face, retained placenta, foul smelling vaginal discharge, and high fever (Figure 5.4). Further details on awareness of pregnancy complications before birth among women who received ANC are presented in Table 5.3c by urban/rural residence, maternal age education level, and wealth tercile.

Figure 5.4: Awareness of Pregnancy Complications among Women Who Received Antenatal Care, Women Aged 15-49 Years, Births since January 2009 (RHS 2014) and Births Since 2014 (RHS 2016) (Percent)



Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Malaria is one of the main causes of indirect maternal mortality globally. To **prevent malaria** in pregnancy, the WHO recommends that that ANC clinics (or other public or private facilities) provide insecticide-treated bed nets to women as early in the pregnancy as possible and also that pregnant women receive intermittent preventive treatment with sulfadoxine-pyrimethamine (IPTp-SP) starting in the second trimester and provided at each ANC visit until the delivery, provided that the doses are given at least a month apart.[2] The Malaria Operational Plan for Tanzania adopted this updated recommendation in 2015; however, the National Road Map Strategic Plan to Improve Reproductive, Maternal, Newborn, Child & Adolescent Health in Tanzania does not yet reflect this change from the prior recommendation of at least two doses of IPTp-SP after first trimester.[3,4]

In Kigoma, similar to 2014 (84.4%), most women in 2016 (84.6%) reported sleeping under a bed net during their last pregnancy since 2014 that resulted in a birth (Table 5.4). Three-quarters of women (75.4%) recounted taking SP-Fansidar for prevention during pregnancy, which is a small increase from 2014 (71.4%). Of women who took SP-Fanidar during their pregnancy, 37.0% took one dose, 37.4% took two doses, and 25.7% took three or more doses (results not shown). Consistent with results from 2014, the 2016 RHS found that reported usage of both bed nets and IPTp-SP increased with the woman's age, education, and wealth.

Further details on the use of bed nets and IPTp-SP are presented in Table 5.4 by urban/rural residence, maternal age education level, and wealth tercile.

Use of Local Herbs During Pregnancy and/or Labor

Women were asked whether they took local herbs during their pregnancy or labor. Previous research has found that herbal medications have commonly been used by pregnant women in Kigoma, with unknown effects. While reasons for use may be varied, some believe these medications increase contractions and may assist the women in delivering faster. Though the Kigoma RHS did not ask which herbs were taken specifically, women with a birth since 2014 were asked if they took herbal remedies during their last three pregnancies, and why. The 2014 survey asked about local herb use in pregnancy; however, the 2016 survey asked about local herb use in pregnancy or labor.

Overall, 10.9% of women reported taking **herbal remedies during pregnancy and/or labor** (Table 5.5); this was a decrease from 2014 (14.8%). In the 2016 survey, the women who were the most frequent reported users of herbal medications were rural women (11.4%), women under age 25 (13.5%), and women who had some primary education (11.6%) or had completed their primary education (11.1%). Despite changes in the question to include labor, characteristics of herb use were similar to 2014, except among those who reported some primary education, where the percentage dropped from 22.8% in 2014 to 11.6% in 2016.

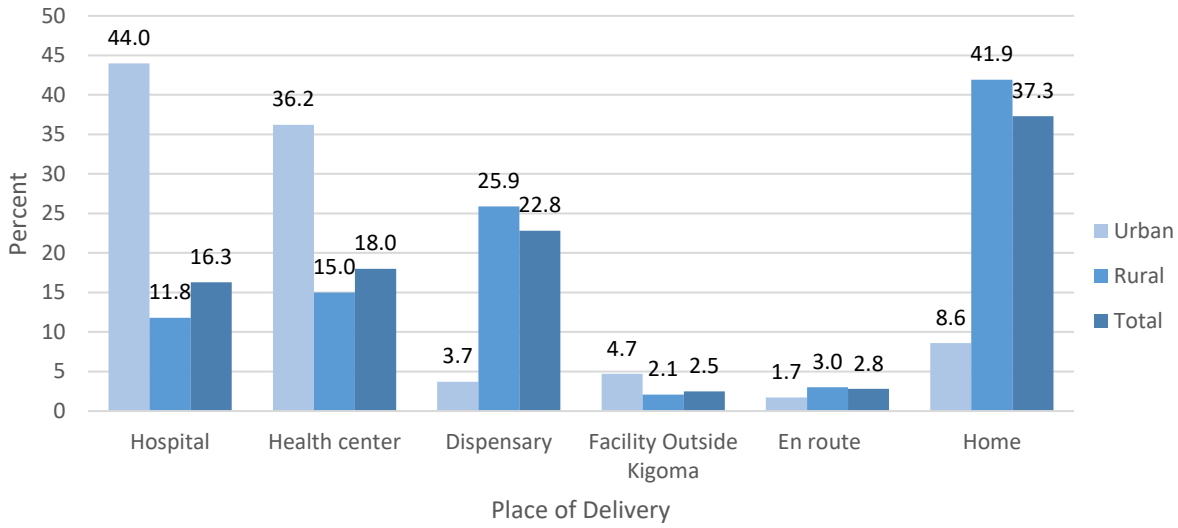
Women most commonly reported taking local herbs during pregnancy and/or labor to treat stomach pain (43.1%), to avoid miscarriage (21.5%), for the health of the child (25.6%), and/or to induce labor (11.9%) (Table 5.6). Further details on the reasons for taking local herbs during pregnancy and/or labor to treat stomach pain are presented in Table 5.6 by urban/rural residence, maternal age, education level, and wealth tercile.

Delivery

Place of Delivery

The WHO recommends that all obstetric deliveries be conducted by skilled birth attendants.[5] In Tanzania, skilled birth attendants are usually found in hospitals, health centers, and dispensaries. The percentage of reported **facility-based deliveries** increased substantially from 47.1% in 2014 to 59.6% in 2016 (Table 5.7a), and the percentage of reported **home deliveries** decreased from 49.6% in 2014 to 37.3% in 2016. Similar to 2014, although at lower levels in 2016, home deliveries were most common in women aged 35–49 (38.2%), women with no education (51.9%), and women in the lowest wealth tercile (46.3%) (Table 5.7a, Figure 5.5). Although still low overall, deliveries in the Kigoma Region 2016 survey were found to have increased in all types of facilities since 2014: hospitals (2014: 14.4%; 2016: 16.3%), health centers (13.2% vs. 18.0%) and dispensaries (17.2% vs. 22.8%). Overall, women from urban settings delivered more frequently in facilities compared to women in rural settings.

Figure 5.5: Place of Delivery of Births Since January 2014, Women Aged 15–49 Years, by Residence (Percent Distribution)

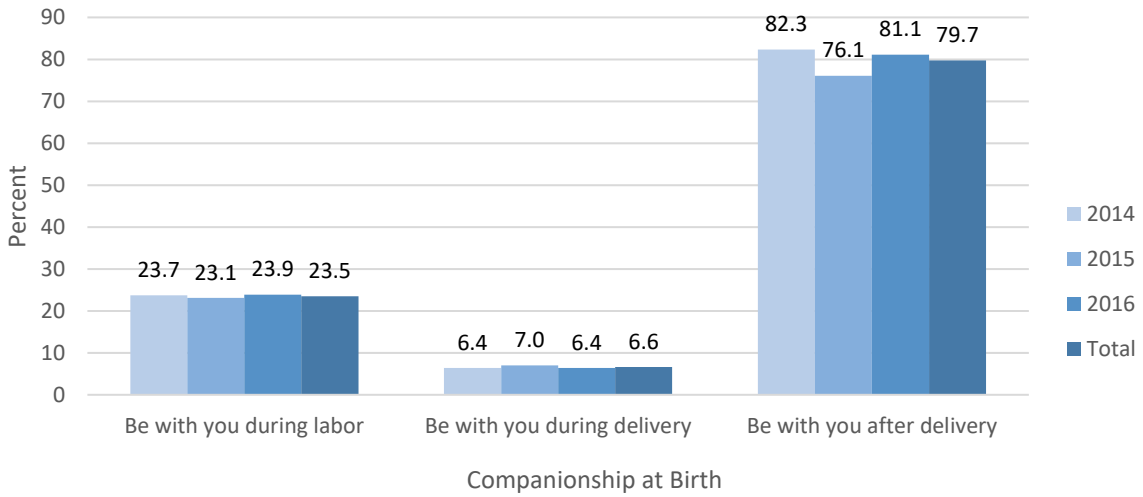


Source: 2016 Kigoma Reproductive Health Survey

Birth Companion

Women were also asked if they had a **birth companion or support person** to accompany them to a facility for delivery. A birth companion or support person may be a family member or friend, and can make the woman more comfortable, provide emotional support, give advice, and help facilitate communication with health providers. Having a support person or companion present during labor, delivery, and/or immediately postpartum may improve the woman's birth experience and health outcomes. The 2016 Kigoma RHS asked details about whether the companion or support person was allowed to be with the woman during labor, delivery, and after the delivery. Almost one-quarter of women (23.5%) had a companion during labor, but few (6.6%) had one during delivery (Table 5.7b, Figure 5.6). The great majority of women (79.7%) had a companion after delivery.

Figure 5.6: Companionship During Labor, Delivery and Immediate Postpartum for Births Since January 2014, Women Aged 15–49 Years, by Year (Percent)



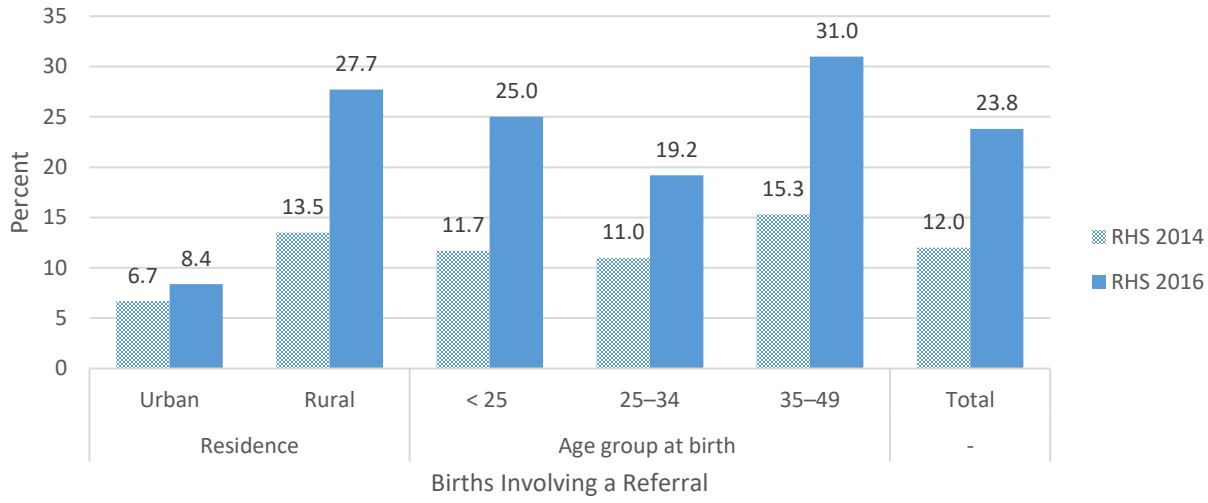
Source: 2016 Kigoma Reproductive Health Survey.

Further details on the percentage of women who had a companion during labor and delivery, and the characteristics of the person accompanying the women are presented in Tables 5.7b and 5.7a, respectively by urban/rural residence, maternal age, education level, wealth tercile and year of pregnancy completion.

Facility Referrals

An estimated 15% of women typically need emergency obstetric care services because of pregnancy complications.[6] Many of these women will require referral to higher level facilities for treatment; thus referrals are a critical component of emergency obstetric care services. The reported proportion of **births with referrals** almost doubled, increasing from 12.0% in 2014 to 23.8% in 2016 (Figure 5.7, Table 5.9). Similar to the findings from the 2014 RHS, the 2016 RHS found that referrals were more common among women in rural settings (27.7%), women aged 35–49 years (31.0%), and women in the lowest and middle wealth tercile (25.8% and 26.2%, respectively).

Figure 5.7: Births Involving a Referral to a Facility by Selected Characteristics, Births since 2009 (RHS 2014) and Births since 2014 (RHS 2016), Women Aged 15–49 (Percent)

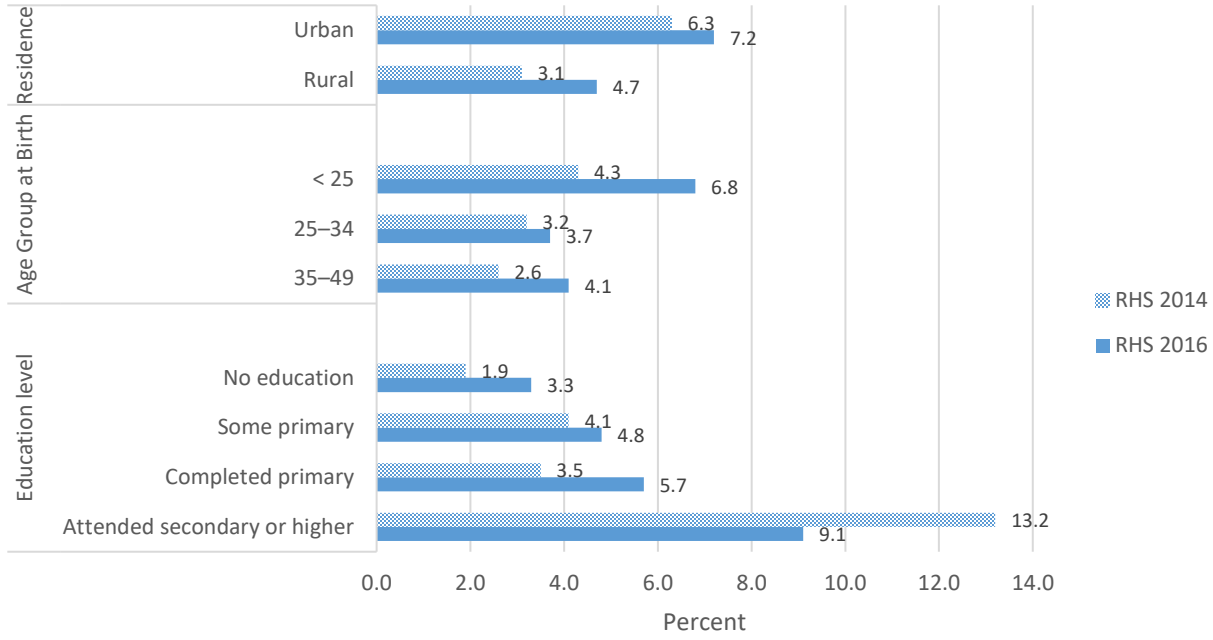


Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Cesarean Section Deliveries

Cesarean section (C-section) can prevent maternal and perinatal deaths and severe maternal health complications such as obstetric fistula. The World Health Organization recommends that C-sections make up 5%-15% of all births. The 2016 RHS documented that 5.1% of all births in Kigoma were delivered by C-section, a relative increase of 46% from the rate of 3.5% in 2014. **C-section rates** rose among women in all sub-categories (rural/urban and all income, education, and age groups) with the exception of women who attended secondary school or higher, whose rate declined from 13.2% in 2014 to 9.1% in 2016 (Figure 5.8 and Table 5.10). As in the 2014 RHS, higher C-section rates were found among women residing in urban settings (7.2%), among women <25 years (6.8%), among those who attended secondary school or higher (9.1%), and among those in the highest wealth tercile (6.7%).

Figure 5.8: Births Delivered by Cesarean section of Women Aged 15–49 Years by Selected Characteristics (Percentage) --All Births Since January 2009 (RHS 2014) and January 2014 (RHS 2016)



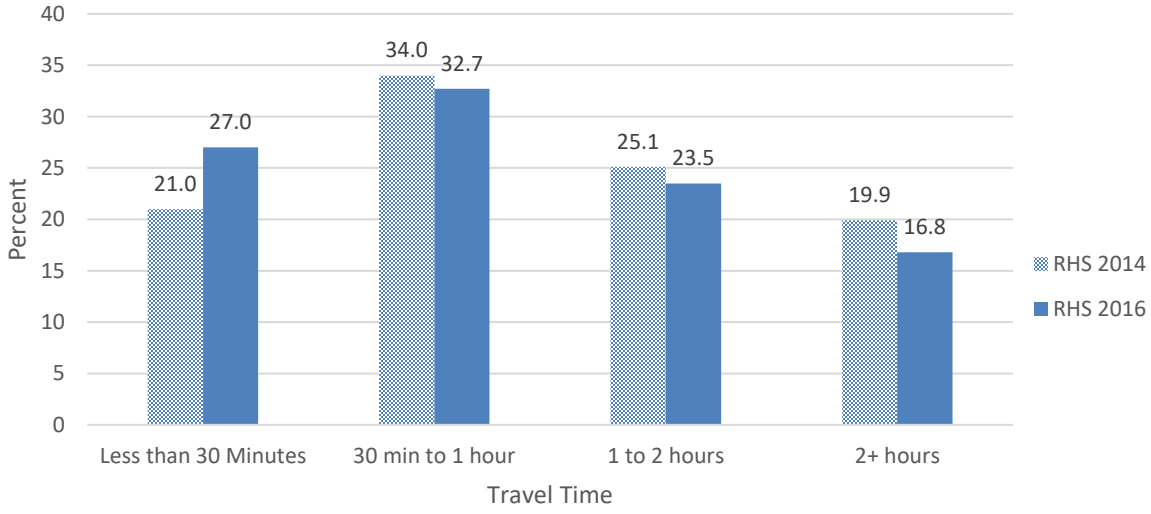
Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Travel Time to Health Facilities

n Kigoma, women may face significant challenges seeking obstetric care because of the travel time needed to reach health care facilities. In the household questionnaire, the head of the household was asked the time it takes to travel to the nearest health facility from their home. Using this information, Table 5.8 shows the one-way **travel time to the nearest health facility** by place of delivery for births since 2014. Similar to 2014, the RHS 2016 survey found that about 88.5% of women delivering in Kigoma facilities lived within 2 hours of a health facility. For those delivering at home, an estimated 72.1% were within 2 hours of a health facility; 27.9% lived more than 2 hours from a facility, and 25.4% lived between 1 and 2 hours from a facility. Almost half of those who delivered at home (46.7%) lived less than an hour from a facility.

For births that were delivered in a facility since January 2014, women were asked how much time it took to travel to that particular facility. The percentage who had a travel time of less than 2 hrs to the facility where they delivered increased from 80.1% in the 2014 RHS to 83.2% in the 2016 RHS. The proportion of women who indicated a travel time of less than thirty minutes to their delivery facility also was higher in the 2016 RHS (27.0% 2016 vs. 21.0% 2014), and the proportion of delivery clients living further away declined (Table 5.11; Figure 5.9). However, in rural areas fewer women were able to travel to a facility for delivery in less than 30 minutes than were women in urban areas (23.5% vs. 40.8%, respectively). In 2016 as in 2014, the percentage of women who traveled more than 2 hours decreased as education levels and wealth terciles increased. Among women who were referred to a higher level facility, 30.1% were more than 2 hours from their delivery facility, and another 34.9% were 1-2 hours away. Further details on travel time to the delivery hospital by maternal age, cesarean delivery status and birth order are presented in Table 5.11.

Figure 5.9: One Way Travel Time to Delivery Facility, All Facility Births of Women Aged 15–49 Years, Births Since January 2009 (RHS 2014), Births Since 2014 (RHS 2016) (Percent Distribution)



Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Mode of Travel to Facilities and Cost of Delivery

Table 5.12 shows the **type of transportation** women used to travel to a delivery facility by demographic categories for all institutional births since January 2014. The largest percentage of women reported walking to the delivery facility (41.5%) followed by riding a motorcycle (25.0%) and a car/truck (23.8%). A smaller percentage of women rode a bicycle (7.2%) or an ambulance, boat bus or Bajaj (three-wheeled motorized rickshaw). Further details on mode of transportation by urban/rural residence maternal age, education level, and wealth tercile are presented in Table 5.12.

Transportation is just one of the **costs related to childbirth** that women and families may incur. Almost half of all women who delivered in a facility (46.6%) reported paying for transportation to their delivery facility (Table 5.13). As in 2014, the women most likely report paying for transport were those in urban settings (52.0%), in the highest wealth tercile (52.4%), and those who delivered in Kigoma Hospital (75.4%). Overall, a higher proportion of women reported paying for transport for their deliveries in 2016 than in 2014, regardless of the type of facility (data not presented). The most common expense remained supplies for delivery, with two-thirds (66.0%) reporting that they paid for supplies brought from home, which is higher than the 2014 RHS at 59.2%. A small percentage of women (6.5%) reported paying informal fees (bribes) for their delivery-related care; the proportion was highest among women delivering at Kigoma dispensaries (9.9%). Further details on the most common expenses for institutional births are presented in Table 5.13 by urban/rural residence, wealth tercile, and cesarean delivery.

Overall expenditures related to the last delivery were an average of Tanzanian shillings (TZS) 16,087 ($7.38 USD, as of September 2016) which is an increase in shillings from the 2014 RHS average of TZS 12,768 ($7.98 USD, as of September 2014) (Table 5.14). As with the RHS 2014 findings, expenditures associated with delivery outside of Kigoma Region were higher (average TZS 23,227), and average expenditures within Kigoma Region increased according to level of facility: lowest at dispensaries and highest at hospitals. Only 13.9% of deliveries in health facilities did not incur any expenditure. The greatest expenditures remained the same as 2014: for supplies brought from home (average TZS 5,458); transport (average TZS 3,752); and delivery care (average TZS 3,333) (Table 5.15). Further details on the average costs and types of expenditures are presented in Tables 5.14 and 5.15 by rural urban residency, wealth tercile, and type of delivery facility.

Reasons for Not Delivering In a Health Facility

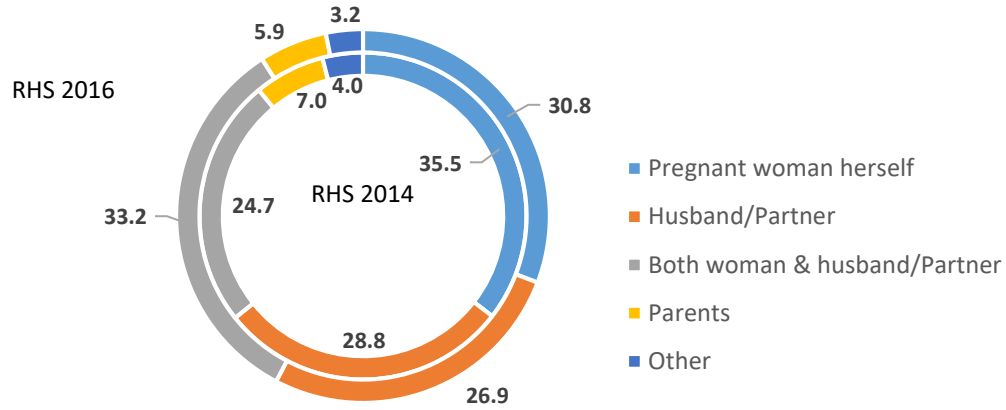
Women who did not deliver in a health facility were asked the reason(s) they did not. The two most common reasons were that the baby came earlier than expected (43.9%) and the distance (18.0%) (Table 5.16). Since 2014, there was an increase of 7.7% percentage points in the proportion of women who said that the baby came earlier than expected, and a decline of 4.8% percentage points in the proportion that identified distance as the reason (data not shown). Not surprisingly, distance was the leading reason for women living more than 2 hours from the nearest health facility (38.1%). Similar to the RHS 2014, distance was more commonly identified as a major reason by women younger than age 25 years, those in the lowest wealth tercile, and those with no education. Also similar to RHS 2014, the “baby came earlier than expected” was reported most frequently by women who were aged 35–49 years.

Delivery Location Decision-Making

Women were asked questions about who makes **decisions about where to deliver the baby**. Data from the 2016 RHS indicate joint decision making with the women and her partner was the most common response (33.2%) followed by the women deciding by herself (30.8%). This reflects a shift since the 2014 RHS (Figure 5.10).

Among women who delivered in facilities, the proportion of who reported they made decisions together with their husbands increased 10.3 percentage points from 2014 to 2016 (from 26.2% in 2014 to 36.5% in 2016), and the proportion who reported their husband alone made decisions dropped by 6.0 percentage points (from 32.3% in 2014 to 26.3% in 2016). *Among women delivering at home*, there was a decrease of 5.7 percentage points in the proportion who made decisions alone (from 43.1% in 2014 to 37.4% in 2016) and an increase of 6.6 percentage points among those who reported making decisions together with their husbands (from 22.0% in 2014 to 28.6% in 2016) (Table 5.17).

Figure 5.10: Person Who Decides Where to Deliver the Baby for Most Recent Births Since January 2009 (RHS 2014), and Most Recent Births Since 2014 (RHS 2016), Women Aged 15–49 (Percent Distribution)

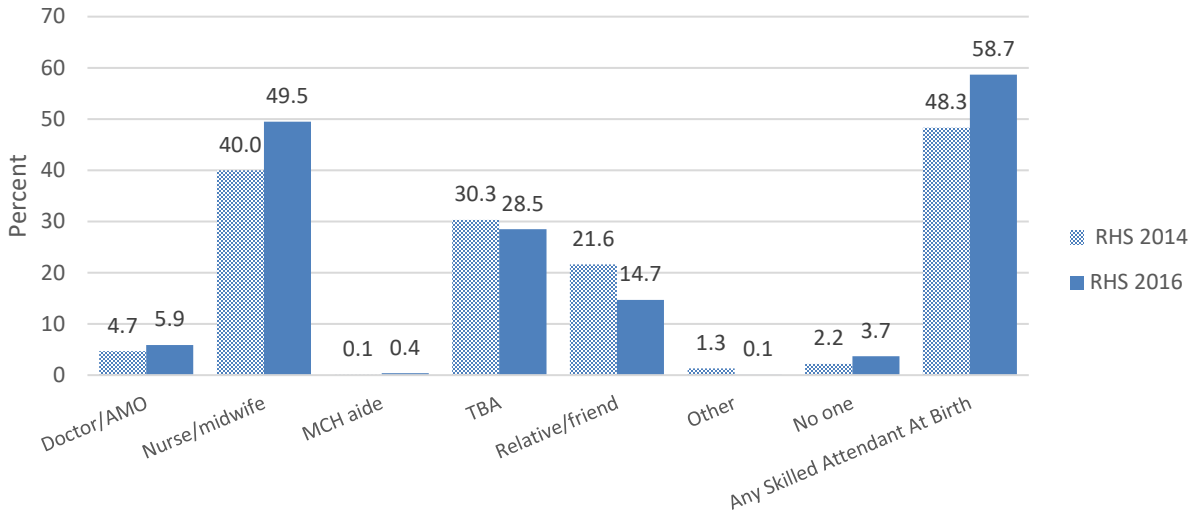


Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Delivery Attendants

The proportion of births reported to be assisted by a **skilled birth attendant** increased from 48.3% in 2014 to 58.7%; skilled attendants are doctors/AMOs, nurses/midwifes, and MCH aides (Figure 5.11; Tables 1.1, 5.18). The most common birth attendants remained nurse/midwives, who assisted at 49.5% of all deliveries, an increase from 40.0% of all deliveries in the RHS 2014. Similar to 2014, traditional birth attendants (TBAs) and relatives/friends were more commonly reported in rural settings (32.4% and 16.1%, respectively). Further details on the category of personnel assisting with births are presented for women in Table 5.18 by urban/rural residence, age group, educational level, wealth tercile, place of delivery, and year of pregnancy completion.

Figure 5.11: Categories of Persons Assisting with Births for Most Recent Births Since January 2009 (RHS 2014), Births Since 2014 (RHS 2016), Women Aged 15–49 (Percent)



Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Birthweight and Vital Registration

Similar to 2014, the 2016 RHS collected Information on birthweight and vital registration status. The percentage of children (born since 2014) with **low birth weight** is shown in Table 5.19 by selected characteristics. Most of the characteristics for the low birth weight did not change; however, the proportion of women aged 35–49 with low birth weight babies was lower in 2016 (4.4%) compared to 2014 (6.1%). The percentage of children (born since 2014) with a birth certificate is presented in Table 5.20. Overall the proportion of **children with vital registration** has gone up by 1.3% percentage points. Despite that small rise, the overall vital registration proportion of 7.7% is still very low.

Postnatal

The postnatal period, from delivery of the placenta to 42 days (6 weeks) after birth, is an important time period for the health of the mother and the infant. Postnatal care is important for identifying and treating complications arising from delivery and for providing the mother with information on how to care for herself and her infant. This critical time period is also when health coverage and programs are often less available than during antenatal and delivery care.

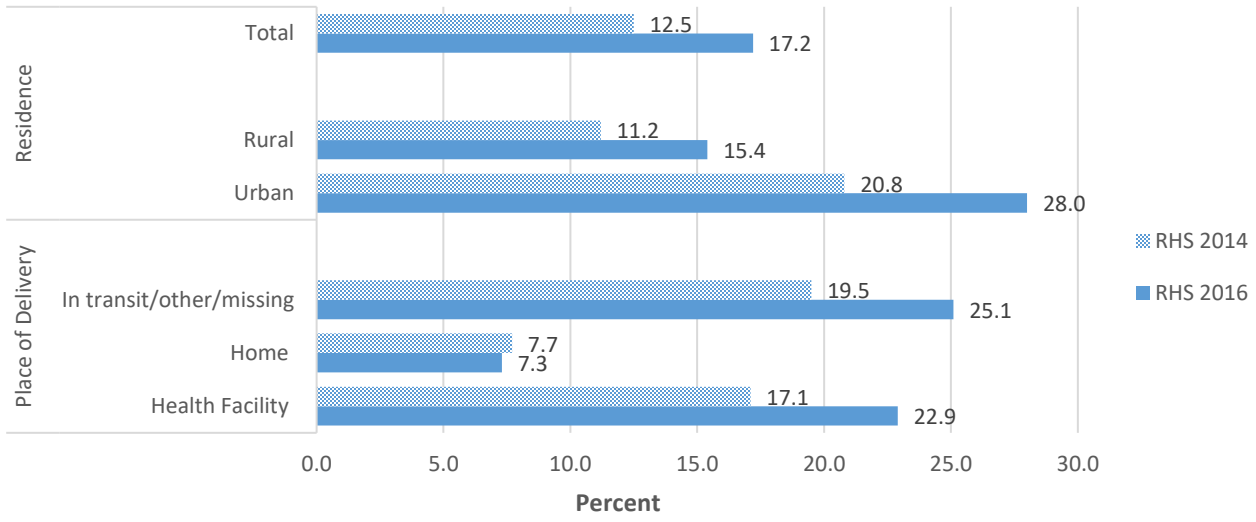
Breastfeeding

The WHO and the United Nations Children's Fund (UNICEF) recommend early initiation of **breastfeeding** (within the first hour of life), exclusive breastfeeding for the first 6 months, and continued breastfeeding, with complementary foods, up to 2 years of age or beyond.[7] Both the 2014 and 2016 RHS found that nearly all women in Kigoma (98.8% and 97.0%, respectively) reported having ever breastfed with their most recent live births (Table 5.21). Similarly to RHS 2014 findings, the percentage of women who breastfed their newborn during the first day of life was also very high in 2016 (96.6%), though as in 2014 it was still lower for breastfeeding within 1 hour of birth (83.2%).

Postnatal Care

In Tanzania clinical practice, it is recommended that all postpartum women have postnatal checks at 48 hours, 7 days, 28 days, and 42 days.[8] However, in 2016 only 17.2% of all respondents indicated they received any postnatal checkup within 42 days of delivery (Figure 5.12; Table 5.22). This proportion is higher than the 12.5% reported in the RHS 2014 but remains very low. Similarly to RHS 2014, receiving **timely postnatal checkups within 42 days** was reported more often by women who reside in urban settings (28.0%), those who delivered in a facility (22.9%) or in transit (25.1%), those with secondary education or higher (23.3%), and those in the highest wealth tercile (23.5%). Women in the lowest wealth tercile (13.4%) and those who gave birth at home (7.3%) received postnatal checkups least often.

Figure 5.12: Women's Postnatal Checkups Within 41 Days of Giving Birth, for Most Recent Births Since January 2009 (RHS 2014), Births Since 2014 (RHS 2016), Women Aged 15–49 (Percent)



Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Of women who reported a postnatal checkup within 42 days of delivery, the majority reported that the checkup was done within 48 hours of delivery (84.7%) which is a large increase for those within 48 hours compared to RHS 2014 (41.3%); it is unclear at this time why this change was so large (Table 5.23).

Overall, dispensaries remain the most frequent **site for postnatal checkups** (39.6%) but this was only true for women in rural areas (49.8%) and not urban areas (4.8%). Among women who reside in urban settings hospitals and health centers were used more frequently for postnatal checkups (46.5% and 45.3%, respectively) (Table 5.24).

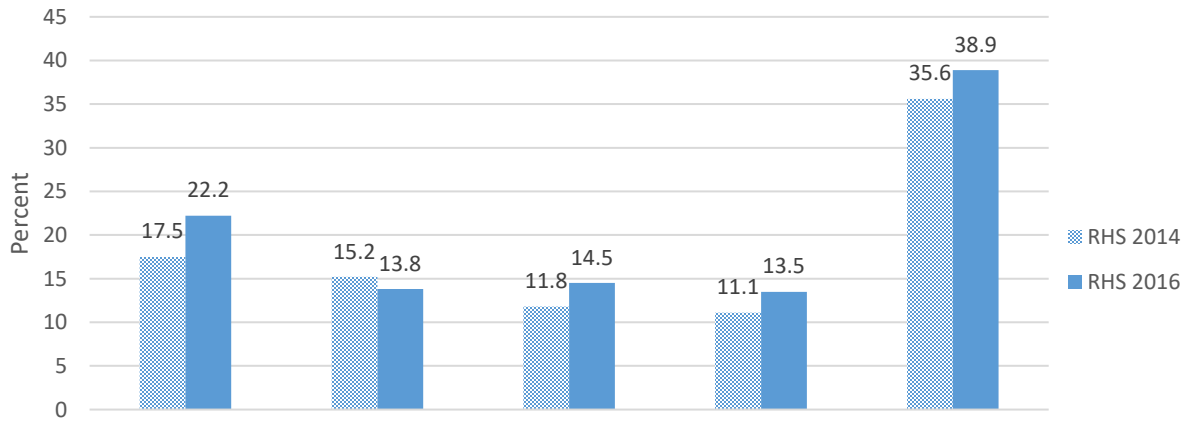
Tanzanian national guidelines also require all neonates to have a checkup within 2 months of birth. The proportion of **children receiving a postnatal checkup** within 2 months dropped from 85.6% in 2014 to 79.9% in 2016. A slightly higher proportion of babies in rural settings (80.4%) and those born to women who delivered in health facilities (81.1%), were found to have had a postnatal checkup (Table 5.25).

Complications

Complications from pregnancy and delivery, such as bleeding, preeclampsia, and infection, can occur during the postnatal period.[6] Rapid identification and provision of appropriate care are critical to saving the life of the mother and preventing morbidity. The Kigoma RHS asked women to list any complications they had experienced in the 6 weeks following delivery.

The 2016 RHS found that the most frequent complications included pelvic pain (22.2%), high fever (13.8%), painful urination (14.5%), and severe bleeding (13.5%) (Figure 5.13; Table 5.26). These were also the most common complaints in the RHS 2014, although higher in frequency for each complaint in 2016 except fever.

Figure 5.13: Complications Experienced Within 6 Weeks of Birth for Most Recent Births Since 2009 (RHS 2014) and Since 2014 (RHS 2016), Women Aged 15–49 (Percent)



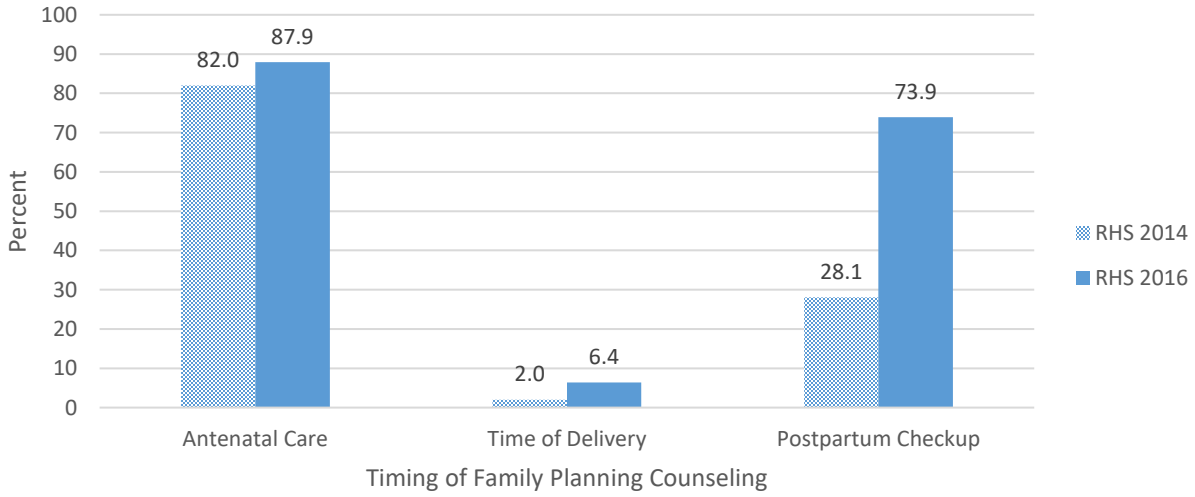
Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Family Planning Counseling: Receipt, Location, and Timing

Family planning, an essential reproductive health service, allows for healthy spacing of pregnancies and limiting family size for women who wish to do so. Family planning can also help those women who are at increased risk of health problems and of death from childbearing to delay or avoid pregnancy. Evidence suggests that women who have more than four children are at increased risk of maternal mortality.[9]

Overall, 75.7% of women reported receiving **family planning counseling** during their most recent pregnancy or postpartum period (Table 5.27). For women who reported receiving family planning counseling at any time during pregnancy including after delivery, the percent receiving counseling during ANC increased by 5.9 percentage points (2014 RHS: 82.0% vs. 2016 RHS: 87.9%) and those receiving it during a postpartum checkup increased by 45.8 percentage points (2014 RHS: 28.1% vs. 2016 RHS: 73.9%) [a] (Figure 5.14, Table 5.28).

Figure 5.14: Family Planning Counseling Received During Pregnancy or After Delivery, for Most Recent Births Since January 2009 (RHS 2014), and Since 2014 (RHS 2016), Women Aged 15–49 (Percent)



Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

More rural than urban women reported receiving family planning counseling during the antenatal period (88.8% and 83.4%, respectively) (Table 5.28). Women of the highest wealth tercile (86.0%) and some primary education (85.2%) received the least antenatal family planning counseling. Also, a greater percentage of urban women reported receiving postpartum family planning counseling (84.1%) compared with rural women (72.1%). This was also true for women delivering in health facilities (81.5%) compared with those who delivered at home (58.7%).

[a] Comparison should be used with caution. The instructions to the interviewer for question 424B changed in 2016 from "RECORD ALL MENTIONED" in in 2014 to "READ A-C".

Implications for Programs

Although most pregnant women receive ANC, the quality of ANC might be improved in Kigoma if care was started earlier and the care was more comprehensive. Both providers and community-based health messaging can **emphasize the need to start ANC during the first trimester** and to come for all 4 ANC visits. ANC services could be strengthened by giving providers **refresher training** on the routine ANC elements (especially checking blood pressure), on counseling women about pregnancy danger signs and what to do if they occur, on birth preparedness and the importance of facility-based delivery care, and on the importance of postnatal care for both mother and child.

As both the experience and the rate of facility-based delivery might be improved if the woman in labor has a support person to assist her, providers might benefit from **training and guidance** on the benefits of birth companionship and from having the opportunity to discuss their concerns about companionship.

Tables

Table 5.1: Receipt of Any Antenatal Care and 4+ Visits (Percent) and Timing of First Visit (Percent Distribution)

Births Since January 2014, among Women Aged 15–49 Years

	ANC (%)		Timing of First ANC (%)						
	Received Any ANC [a]	4+ ANC Visits	First Trimester	Second Trimester	Third Trimester	DNR Trimester	No ANC	Total	Number of Births
Residence									
Urban	98.3	57.3	22.0	63.9	12.1	0.4	1.7	100.0	493
Rural	98.8	40.9	14.6	70.9	12.9	0.3	1.2	100.0	3,033
Age group (yr) at birth									
< 25	98.3	44.2	18.0	67.8	12.3	0.2	1.7	100.0	1,400
25–34	99.3	41.1	15.2	71.2	12.4	0.4	0.7	100.0	1,427
35–49	98.3	45.2	11.7	71.6	14.6	0.4	1.7	100.0	699
Education level									
No education	97.6	34.4	11.3	69.3	16.8	0.2	2.4	100.0	1,024
Some primary	98.7	44.6	16.6	67.9	13.2	0.9	1.3	100.0	550
Completed primary	99.5	45.5	16.6	71.7	11.0	0.2	0.5	100.0	1,747
Attended secondary or higher	97.4	63.1	26.7	63.1	7.2	0.4	2.6	100.0	205
Wealth tercile									
Low	98.2	39.1	13.4	70.5	14.0	0.4	1.8	100.0	1,276
Middle	99.1	41.4	15.1	71.8	12.1	0.1	0.9	100.0	1,156
High	98.9	49.8	18.9	67.3	12.0	0.6	1.1	100.0	1,094
Year pregnancy ended									
2014	98.8	44.0	15.0	71.5	11.7	0.6	1.2	100.0	1,383
2015	98.6	44.9	17.4	69.6	11.4	0.2	1.4	100.0	1,299
2016	98.7	38.9	13.9	67.9	16.8	0.1	1.3	100.0	844
Total	**98.7**	**43.1**	**15.6**	**69.9**	**12.8**	**0.3**	**1.3**	**100.0**	**3,526**

Abbreviations: ANC: antenatal care; DNR: did not remember.

Source: 2016 Kigoma Reproductive Health Survey.

[a] 18 women receiving ANC who responded they were unsure about number of visits were excluded.

Table 5.2: Place Antenatal Care Received, by Selected Characteristics (Percent)

Births Since January 2014 Receiving Antenatal Care, of Women Aged 15–49 Years

	Hospital (Kigoma)	Health Center	Dispensary	Other Hospital	Home/CBD/CHW/TBA/other	Number of Births
Residence						
Urban	26.5	49.8	19.4	2.9	1.6	485
Rural	1.8	8.9	87.2	0.8	1.5	2,995
Age group (yr) at birth						
< 25	5.5	14.1	76.6	2.2	1.9	1,376
25–34	5.7	14.8	77.8	0.4	1.4	1,417
35–49	3.6	15.2	80.3	0.3	0.7	687
Education level						
No education	1.8	13.8	81.8	0.7	1.8	998
Some primary	4.7	17.7	74.9	1.0	1.8	543
Completed primary	5.4	12.9	79.9	1.0	1.0	1,739
Attended secondary or higher	21.8	25.4	47.2	3.9	2.6	200
Wealth tercile						
Low	2.7	12.2	82.8	0.9	1.4	1,252
Middle	2.6	10.7	84.8	0.4	1.5	1,146
High	10.9	21.8	64.3	2.0	1.5	1,082
Year pregnancy ended						
2014	5.3	14.3	78.0	1.1	1.3	1,366
2015	5.5	15.2	76.8	1.2	1.7	1,281
2016	4.6	14.3	79.0	0.9	1.5	833
Total	**5.2**	**14.6**	**77.8**	**1.1**	**1.5**	**3,480**

Abbreviations: CBD: Community–based distribution; CHW: community health worker; TBA: traditional birth attendant.

Source: 2016 Kigoma Reproductive Health Survey.

Table 5.3a: Content of Antenatal Care Received, by Selected Characteristics (Percent)

Most Recent Births Since January 2014 Receiving Antenatal Care, of Women Aged 15–49 Years

	Blood Pressure Checked	Told About Signs of Pregnancy Complications	Advised to Develop a Birth Plan	Number of Cases
Residence				
Urban	73.9	63.2	93.0	485
Rural	41.5	57.1	85.9	2,995
Age group (yr) at birth				
< 25	43.1	56.4	86.4	1,376
25–34	47.7	59.2	87.2	1,417
35–49	48.6	58.8	87.3	687
Education level				
No education	37.6	54.7	80.9	998
Some primary	43.0	52.6	86.0	543
Completed primary	48.8	60.5	90.1	1,739
Attended secondary or higher	71.8	67.0	91.9	200
Wealth tercile				
Low	40.3	54.5	85.0	1,252
Middle	42.1	59.5	85.9	1,146
High	57.1	60.4	90.3	1,082
Total	**46.0**	**58.0**	**86.9**	**3,480**

Source: 2016 Kigoma Reproductive Health Survey.

Table 5.3b: Actions Taken to Prepare for Facility Delivery, by Selected Characteristics (Percent)

All Births since January 2014, Among Women Aged 15–49 Years Who Attended Antenatal Care

	Identify transport	Save money	Identify a blood donor	Identify a skilled attendant for delivery	Identify a companion or support person to accompany	Took at least one preparedness step	No. of Cases
Residence							
Urban	46.1	72.4	7.5	7.2	75.4	91.5	485
Rural	32.0	59.9	3.4	9.6	59.3	78.6	2,995
Age group (yr) at birth							
< 25	34.7	63.4	5.0	10.1	65.7	82.5	1,376
25–34	34.6	61.4	3.8	9.0	59.5	80.1	1,417
35–49	31.0	58.6	2.5	8.1	57.5	76.9	687
Education level							
No education	27.3	55.7	2.1	7.5	50.5	71.5	998
Some primary	26.3	57.1	3.3	7.9	59.3	78.4	543
Completed primary	37.6	64.2	4.7	10.1	67.3	84.4	1,739
Attended secondary or higher	55.2	81.2	10.1	14.8	73.7	95.8	200
Wealth tercile							
Low	27.9	54.6	3.0	6.7	55.8	73.0	1,252
Middle	31.2	59.7	2.8	9.1	61.6	80.7	1,146
High	43.9	72.1	6.5	12.5	68.3	89.0	1,082
Total	**33.9**	**61.6**	**4.0**	**9.3**	**61.6**	**80.4**	**3,480**

Source: 2016 Kigoma Reproductive Health Survey.

Table 5.3c: Awareness of Pregnancy Complications before Recent Birth since January 2014, by Selected Characteristics (Percent)

Women Aged 15–49 Years, Among Women Who Attended Antenatal Care

	Severe vaginal bleeding	Swollen hands/face	Blurred vision	Prolonged labor (>12 hours)	Convulsions	Retained placenta	Foul smelling vaginal discharge	High fever	Other	Awareness of at Least One Complication	Number of Cases
Residence											
Urban	66.5	12.0	7.6	11.7	28.0	16.2	5.2	24.5	2.6	87.0	460
Rural	47.1	9.0	6.5	7.3	14.8	11.3	5.2	23.0	1.3	72.3	2,718
Age group (yr) at birth											
15–24	46.5	9.6	6.4	8.2	16.1	10.6	5.0	20.8	1.4	71.2	1,067
25–34	49.6	8.7	7.2	7.7	17.1	12.2	5.6	24.9	1.3	75.0	1,294
35–49	55.0	10.2	6.2	7.9	16.8	13.6	4.8	23.6	1.9	77.8	817
Education level											
No education	42.9	7.7	6.2	6.8	13.5	12.9	4.6	22.7	1.2	66.9	914
Some primary	48.1	10.4	6.7	7.5	18.4	12.8	5.2	22.7	2.6	72.9	485
Completed primary	53.4	9.7	6.8	8.5	17.9	11.1	5.1	22.8	1.2	77.7	1,587
Attended secondary or higher	59.3	12.5	7.4	9.5	17.7	13.1	8.6	30.3	2.7	86.8	192
Wealth tercile											
Low	47.1	9.1	6.2	6.4	16.0	12.4	3.6	21.4	1.6	70.4	1,135
Middle	46.8	9.0	6.3	8.1	14.6	10.3	5.2	23.8	0.9	73.8	1,045
High	56.5	10.2	7.6	9.5	19.7	13.4	7.0	24.7	2.1	79.7	998
Total	**49.9**	**9.4**	**6.7**	**7.9**	**16.7**	**12.0**	**5.2**	**23.2**	**1.5**	**74.4**	**3,178**

Source: 2016 Kigoma Reproductive Health Survey.

Table 5.4: Use of Insecticide-Treated Bed Nets and Antimalarial Drugs During Pregnancy, by Selected Characteristics (Percent)

Most Recent Births Since January 2014, of Women Aged 15–49 Years

	Usually Sleep Slept Under ITN (%)	Took Antimalarial Drugs (%)	Number of Births
Residence			
Urban	90.4	84.5	493
Rural	83.6	74.0	3,033
Age group (yr) at birth			
< 25	83.3	70.1	1,400
25–34	85.0	79.2	1,427
35–49	86.1	78.4	699
Education level			
No education	81.6	69.6	1,024
Some primary	83.4	70.7	550
Completed primary	86.1	79.6	1,747
Attended secondary or higher	88.7	81.7	205
Wealth tercile			
Low	81.7	70.1	1,276
Middle	83.3	76.0	1,156
High	89.4	81.1	1,094
Total	**84.6**	**75.4**	**3,526**

Abbreviation: ITN: insecticide-treated bed net.
Source: 2016 Kigoma Reproductive Health Survey.

Table 5.5: Use of Local Herbs During Pregnancy and/or Labor, by Selected Characteristics (Percent)

Most Recent Births Since January 2014, of Women Aged 15–49 Years

	Took Local Herbs (%)	Number of Births
Residence		
Urban	8.3	493
Rural	11.4	3,033
Age group (yr) at birth		
< 25	13.5	1,400
25–34	9.2	1,427
35–49	9.4	699
Education level		
No education	10.7	1,024
Some primary	11.6	550
Completed primary	11.1	1,747
Attended secondary or higher	8.5	205
Wealth tercile		
Low	13.7	1,276
Middle	9.2	1,156
High	9.5	1,094
Total	**10.9**	**3,526**

Source: 2016 Kigoma Reproductive Health Survey.

Table 5.6: Reasons for Taking Local Herbs During Pregnancy and/or Labor, by Selected Characteristics (Percent)

Most Recent Births Since January 2014, Where the Mother Took Herbs During Pregnancy and/or Labor, of Women Aged 15–49 Years

	Reasons for Taking Herbs During Pregnancy and/or Labor (%)										
	To Induce Labor	Malaria	Cold/Flu	Headache	Convulsions	Vaginal Bleeding	Stomach Pain	For the Health of the Child	To Avoid Miscarriage	Other	Number of Births
Residence											
Urban	21.5	2.2	0.0	0.0	0.0	0.0	34.8	31.1	11.9	17.1	41
Rural	10.7	0.9	0.0	1.6	0.0	4.4	44.1	25.0	22.7	9.3	343
Age group (yr) at birth											
< 25	12.9	0.5	0.0	1.1	0.0	4.8	45.5	27.6	18.7	11.2	190
25–34	10.4	1.5	0.0	1.0	0.0	3.1	42.0	23.1	23.0	9.8	129
35–49	11.9	1.6	0.0	3.1	0.0	2.9	38.6	24.9	26.8	7.9	65
Education level											
No education	12.7	1.8	0.0	1.9	0.0	3.4	43.5	30.2	25.7	11.7	110
Some primary	9.8	0.0	0.0	5.3	0.0	1.8	40.0	26.9	16.0	12.1	64
Completed primary	10.2	1.0	0.0	0.0	0.0	5.3	45.8	20.7	22.9	9.0	193
Attended secondary or higher	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	17
Wealth tercile											
Low	10.6	1.2	0.0	1.1	0.0	2.7	43.2	30.4	26.1	9.1	176
Middle	12.3	0.9	0.0	1.3	0.0	4.8	48.9	21.7	18.7	11.4	106
High	13.8	0.9	0.0	2.1	0.0	4.9	37.0	21.6	16.6	10.7	102
Total	**11.9**	**1.0**	**0.0**	**1.4**	**0.0**	**3.9**	**43.1**	**25.6**	**21.5**	**10.2**	**384**

Source: 2016 Kigoma Reproductive Health Survey.

[a] Fewer than 25 women responded.

Table 5.7a: Place of Delivery, by Selected Characteristics (Percent Distribution)

Births Since January 2014, of Women Aged 15–49 Years

	Place of delivery							Total	Number of Births
	Kigoma Hospital	Other Hospital	Kigoma Health Center	Kigoma Dispensary	En route to a facility	Own/other home	Other/missing		
Residence									
Urban	44.0	4.7	36.2	3.7	1.7	8.6	1.0	100.0	493
Rural	11.8	2.1	15.0	25.9	3.0	41.9	0.2	100.0	3,033
One-way travel time to nearest health facility									
Less than 30 min	22.7	3.0	19.2	25.4	2.2	27.1	0.4	100.0	832
30 min to 1 hour	17.7	2.3	20.1	24.5	3.6	31.4	0.5	100.0	1,245
1 to 2 hours	14.3	2.7	16.1	23.8	3.0	39.8	0.3	100.0	844
2+ hours	7.9	1.8	14.7	14.7	1.8	59.1	0.0	100.0	605
Age Group (yr) at Birth									
< 25	17.3	3.7	17.9	23.0	1.7	35.9	0.5	100.0	1,400
25–34	15.2	1.8	17.6	23.5	3.6	38.1	0.1	100.0	1,427
35–49	16.8	1.4	18.8	20.8	3.5	38.2	0.5	100.0	699
Education level									
No education	8.4	0.8	15.1	20.9	2.8	51.9	0.2	100.0	1,024
Some primary	13.2	2.5	21.3	20.3	1.4	40.9	0.4	100.0	550
Completed primary	18.9	2.7	19.0	25.8	3.2	30.1	0.4	100.0	1,747
Attended secondary or higher	42.3	9.3	15.3	13.7	2.9	15.9	0.6	100.0	205
Wealth tercile									
Low	10.8	1.8	15.4	22.9	2.4	46.3	0.4	100.0	1,276
Middle	12.7	2.1	16.3	27.3	3.5	37.9	0.1	100.0	1,156
High	26.8	3.7	22.8	17.9	2.4	25.8	0.5	100.0	1,094
Year pregnancy ended									
2014	15.2	2.7	16.6	21.6	3.3	40.2	0.5	100.0	1,383
2015	17.8	2.5	19.5	20.7	2.6	36.6	0.3	100.0	1,299
2016	15.9	2.3	17.8	28.0	2.3	33.5	0.1	100.0	844
Total	**16.3**	**2.5**	**18.0**	**22.8**	**2.8**	**37.3**	**0.3**	**100.0**	**3,526**

Source: 2016 Kigoma Reproductive Health Survey.

Table 5.7b: Percentage of Women who had a Companion or Support Person at the Facility where they Delivered, by Selected Characteristics (Percent)

Most Recent Births Since January 2014, Women Aged 15–49 Years

			Companion or Support Person Allowed to (%):			
	Had Companion or Support Person (%)	Number of Births	Be with Her During Labor	Be with Her During Delivery	Be with Her After Delivery	Number of Births
Residence						
Urban	83.5	493	14.0	2.9	74.0	415
Rural	52.2	3,033	26.0	7.6	81.1	1,573
Age group (yr) at birth						
< 25	59.6	1,400	24.3	6.4	81.1	837
25–34	54.7	1,427	25.2	7.7	79.1	778
35–49	54.0	699	18.2	4.8	77.6	373
Education level						
No education	42.0	1,024	24.3	7.8	82.0	427
Some primary	54.5	550	27.1	7.9	82.0	301
Completed primary	63.0	1,747	23.2	6.0	79.8	1,096
Attended secondary or higher	79.1	205	16.8	5.4	68.1	164
Wealth tercile						
Low	48.1	1,276	29.0	7.6	85.3	608
Middle	55.9	1,156	20.9	6.9	78.8	644
High	67.4	1,094	21.2	5.5	75.7	736
Year pregnancy ended						
2014	53.2	1,383	23.7	6.4	82.3	732
2015	56.8	1,299	23.1	7.0	76.1	738
2016	61.5	844	23.9	6.4	81.1	518
Total	**56.5**	**3,526**	**23.5**	**6.6**	**79.7**	**1,988**

Source: 2016 Kigoma Reproductive Health Survey.

Table 5.7c: Accompanying Companion or Support Person by Selected Characteristics (Percent)

Most Recent Births Since January 2014, Delivered in a Facility and had a Companion, Women Aged 15–49 Years of Age

	Companion Person (%)									
	Husband or Partner	Mother	Sister	Mother-in-law	Other Relative	Traditional Birth Attendant	Neighbor	Friend	Other	Number of Births
Residence										
Urban	25.7	32.2	20.2	14.2	31.2	1.8	25.9	6.4	0.2	415
Rural	24.4	23.9	15.9	30.5	28.0	7.7	29.5	6.0	0.6	1,573
Age group (yr) at birth										
< 25	20.3	37.1	12.1	36.5	29.4	5.5	22.2	4.0	0.6	837
25–34	26.4	20.1	19.5	24.7	25.8	6.4	32.2	8.0	0.1	778
35–49	30.9	11.5	21.6	10.9	32.8	8.6	36.3	6.9	1.3	373
Education level										
No education	25.2	18.9	14.4	24.6	25.0	7.0	34.7	6.2	0.9	427
Some primary	25.7	29.3	21.3	27.8	28.2	7.4	24.6	6.8	1.3	301
Completed primary	23.7	26.3	16.1	29.1	29.2	6.6	28.7	5.9	0.3	1,096
Attended secondary or higher	27.8	32.0	19.5	18.9	35.2	2.3	20.5	5.9	0.0	164
Wealth tercile										
Low	20.3	24.1	16.0	31.3	23.9	7.7	26.4	5.6	0.6	608
Middle	24.9	21.9	14.1	29.2	29.3	7.2	34.6	6.3	0.4	644
High	28.2	30.3	19.9	21.6	32.1	4.8	25.4	6.5	0.6	736
Year pregnancy ended										
2014	25.5	26.8	16.6	25.2	28.8	6.8	26.5	5.7	0.5	732
2015	22.6	22.7	17.1	27.4	27.8	6.2	28.4	6.8	0.6	738
2016	26.5	28.3	16.6	29.4	29.5	6.3	32.2	5.7	0.6	518
Total	**24.7**	**25.6**	**16.8**	**27.1**	**28.6**	**6.5**	**28.7**	**6.1**	**0.6**	**1,988**

Source: 2016 Kigoma Reproductive Health Survey.

Table 5.8: One-Way Travel Time to Nearest Health Facility, by Place of Delivery (Percent Distribution)

All Births Since January 2014, of Women Aged 15–49 Years

	Less than 30 min	30 min to 1 hour	1 to 2 hours	2+ hours	Total	Number of Births
Place of delivery						
Kigoma Hospital	32.7	38.0	20.8	8.5	100.0	589
Other Hospital	28.6	32.8	25.7	12.9	100.0	89
Kigoma Health Center	25.0	39.3	21.3	14.3	100.0	620
Kigoma Dispensary	26.1	37.7	24.8	11.3	100.0	800
On route to a facility	18.2	44.7	25.5	11.6	100.0	99
Own/other home	17.1	29.6	25.4	27.9	100.0	1,318
Any facility[b]	27.7	38.1	22.7	11.5	100.0	2098
Home/other home/ on route to facility	17.2	30.7	25.4	26.8	100.0	1417
Other/missing	[a]	[a]	[a]	[a]	[a]	11
Total	**23.5**	**35.1**	**23.8**	**17.6**	**100.0**	**3,526**

Source: 2016 Kigoma Reproductive Health Survey.

[a] Fewer than 25 cases.

[b.] Kigoma Hospital, Other Hospital, Kigoma Health Center, Kigoma Dispensary

Table 5.9: Births Involving a Referral to a Facility, by Selected Characteristics (Percent)

All Institutional Births (Including in Transit) Since January 2014, of Women Aged 15–49 Years

	Referral (%)	Number of Births
Residence		
Urban	8.4	448
Rural	27.7	1,749
Age group (yr) at birth		
< 25	25.0	893
25–34	19.2	879
35–49	31.0	425
Education level		
No education	22.1	488
Some primary	22.8	325
Completed primary	25.9	1,212
Attended secondary or higher	16.1	172
Wealth tercile		
Low	25.8	676
Middle	26.2	715
High	20.0	806
Total	**23.8**	**2,197**

Source: 2016 Kigoma Reproductive Health Survey.

Table 5.10: Births Delivered by Cesarean Section, by Selected Characteristics (Percent)

All Births Since January 2014, of Women Aged 15–49 Years

	Cesarean Delivery (%)	Number of Births
Residence		
Urban	7.2	493
Rural	4.7	3,033
Age group (yr) at birth		
< 25	6.8	1,400
25–34	3.7	1,427
35–49	4.1	699
Education level		
No education	3.3	1,024
Some primary	4.8	550
Completed primary	5.7	1,747
Attended secondary or higher	9.1	205
Wealth tercile		
Low	4.5	1,276
Middle	4.2	1,156
High	6.7	1,094
Year pregnancy ended		
2014	5.0	1,383
2015	4.9	1,299
2016	5.5	844
Total	**5.1**	**3,526**

Source: 2016 Kigoma Reproductive Health Survey.

Table 5.11: One-Way Travel Time to Delivery Facility[a], by Selected Characteristics (Percent Distribution)

All Institutional Births Since January 2014, of Women Aged 15–49 Years [b]

	One-way travel time to delivery facility (%)					
	Less than 30 min	30 min to 1 hour	1 to 2 hours	2+ hours	Total	Number of Births
Residence						
Urban	40.8	36.6	15.5	7.1	100.0	422
Rural	23.5	31.6	25.5	19.4	100.0	1,612
Age group (yr) at birth						
< 25	27.7	32.0	23.6	16.7	100.0	840
25–34	29.2	32.4	22.5	16.0	100.0	805
35–49	21.1	34.6	25.3	19.0	100.0	389
Education level						
No education	21.7	29.9	26.8	21.7	100.0	450
Some primary	28.1	27.6	25.2	19.0	100.0	307
Completed primary	27.1	34.4	22.9	15.6	100.0	1,118
Attended secondary or higher	40.2	37.8	14.5	7.5	100.0	159
Wealth tercile						
Low	18.6	34.9	26.8	19.7	100.0	628
Middle	23.7	32.7	26.1	17.5	100.0	651
High	37.1	30.7	18.3	13.8	100.0	755
Cesarean section delivery						
No	27.6	32.8	23.7	15.9	100.0	1,866
Yes	20.6	30.9	20.9	27.6	100.0	168
Referral						
No	32.6	35.1	19.7	12.5	100.0	1,538
Yes	9.9	25.0	34.9	30.1	100.0	496
Birth order						
1	24.8	31.1	23.9	20.2	100.0	487
2	34.3	31.3	21.4	13.1	100.0	340
3	30.6	35.8	22.2	11.4	100.0	281
4+	24.5	33.0	24.4	18.1	100.0	926
Total	**27.0**	**32.7**	**23.5**	**16.8**	**100.0**	**2,034**

Source: 2016 Kigoma Reproductive Health Survey.

[a] Institutional delivery includes: Kigoma Hospitals, Kigoma Health Centers, Dispensaries, other hospitals and on the way to a facility.

[b] 64 cases did not remember time to delivery facility.

Table 5.12: Type of Transportation Used to Delivery Facility[a], by Selected Characteristics (Percent)
All Institutional Births Since January 2014, of Women Aged 15–49 Years

	Walked	Ambulance	Bicycle	Motorcycle	Car/truck	Boat	Bus/ Minibus	Bajaj [b]	Other	Number of Births
Residence										
Urban	40.8	1.0	3.7	9.3	39.7	0.2	2.4	10.0	0.2	440
Rural	41.7	1.5	8.2	29.1	19.7	1.7	2.6	0.5	0.2	1,658
Age group (yr) at birth										
< 25	40.1	1.4	8.5	25.4	23.0	1.5	3.0	3.2	0.1	870
25–34	41.6	1.0	7.0	23.3	25.9	1.2	1.9	2.0	0.3	827
35–49	44.3	2.2	4.9	27.3	21.3	1.8	3.0	1.8	0.0	401
Education level										
No education	42.7	1.4	11.3	29.4	16.1	1.8	1.7	0.4	0.0	459
Some primary	45.9	1.6	5.6	24.8	17.4	2.3	4.1	4.3	0.6	317
Completed primary	41.6	1.4	6.9	25.3	24.7	1.2	2.5	2.0	0.1	1,155
Attended secondary or higher	29.1	0.5	1.2	11.0	51.1	0.6	2.5	7.5	0.6	167
Wealth tercile										
Low	46.1	1.5	10.2	29.0	13.8	2.0	2.4	0.5	0.1	645
Middle	45.3	1.1	7.1	27.7	19.2	1.0	2.7	0.9	0.2	674
High	34.2	1.6	4.9	19.1	36.4	1.3	2.6	5.5	0.2	779
Total	**41.5**	**1.4**	**7.2**	**25.0**	**23.8**	**1.4**	**2.5**	**2.4**	**0.2**	**2,098**

Source: 2016 Kigoma Reproductive Health Survey.
[a] Institutional delivery includes: Kigoma Hospitals, Kigoma Health Centers, Dispensaries, other hospitals and on the way to a facility.
[b] Added response for 2016 RHS. Three-wheeled rickshaw taxi.

Table 5.13 Types of Expenditures Incurred During Labor and Childbirth, by Selected Characteristics (Percent)

Most Recent Institutional Births Since January 2014, of Women Aged 15–49 Years [a]

	Paid for transport	Paid for delivery care	Paid informal fee (bribes)	Paid for supplies (at facility)	Paid for supplies (brought from home)	Paid for medications	Paid for accommodation	Paid for food at the facility	Paid for dependent-care	Paid for any other expense	Number of Births
Residence											
Urban	52.0	9.9	6.7	9.8	62.7	7.2	1.7	1.1	7.8	7.2	440
Rural	45.2	14.8	6.4	6.2	66.8	5.3	2.0	3.9	6.7	7.9	1,658
Wealth tercile											
Low	43.4	16.1	5.6	7.7	68.2	5.6	1.9	3.2	5.4	6.9	645
Middle	43.0	14.4	7.7	6.4	65.2	3.7	1.6	3.5	6.7	7.3	674
High	52.4	11.2	6.2	6.8	64.8	7.6	2.3	3.4	8.4	9.0	779
Place of delivery											
Kigoma Hospital	75.4	8.8	6.9	8.6	62.5	5.8	5.7	4.5	7.4	5.8	589
Other Hospital	66.1	14.8	0.0	3.2	56.3	4.6	0.0	1.2	1.2	14.2	89
Kigoma Health Center	52.0	14.9	2.9	7.8	66.6	8.7	0.6	4.2	7.8	6.4	620
Kigoma Dispensary	19.7	16.3	9.9	5.5	69.0	3.4	0.6	2.1	6.5	9.6	800
Cesarean section delivery											
No	45.3	12.8	7.0	6.9	66.5	4.7	1.8	3.1	7.2	7.8	1,919
Yes	60.9	24.5	3.0	7.3	59.9	17.2	3.3	6.4	3.6	7.6	179
Total	**46.6**	**13.8**	**6.5**	**7.0**	**66.0**	**5.7**	**2.0**	**3.4**	**6.9**	**7.8**	**2,098**

Source: 2016 Kigoma Reproductive Health Survey.

[a] Between 3–92 unknown responses for each expenditure. Total of 24 cases of in-kind payment removed from analysis.

Table 5.14: Expenditures Incurred (In TZS)[a] During Labor and Childbirth (Percent Distribution) and Total Expenditures Related to Last Institutional Delivery (Mean)
Most Recent Institutional Births Since January 2014, of Women Aged 15–49 Years [b]

	Expenditure category: last institutional delivery since Jan. 2014					Total	Mean Total Expenditures related to Institutional deliveries since January 2014 (Average in TZS)	No. of Births
	None	1–4,999 TZS	5,000–9,999 TZS	10,000–19,999 TZS	20,000+ TZS			
Residence								
Urban	15.0	16.9	19.5	27.4	21.3	100.0	16,248	440
Rural	13.6	11.9	25.0	26.3	23.2	100.0	16,045	1,658
Wealth tercile								
Low	13.7	10.9	28.4	26.4	20.6	100.0	15,590	645
Middle	14.5	12.9	24.2	28.1	20.2	100.0	14,216	674
High	13.5	14.7	19.7	25.2	27.0	100.0	18,163	779
Place of delivery								
Kigoma Hospital	8.3	15.2	20.2	27.4	28.9	100.0	20,227	589
Other Hospital	13.8	14.3	19.2	17.9	34.9	100.0	23,227	89
Kigoma Health Center	11.4	9.2	22.1	31.0	26.3	100.0	18,370	620
Kigoma Dispensary	19.9	14.2	28.3	23.3	14.3	100.0	10,540	800
Cesarean section delivery								
No	14.3	12.9	24.9	26.9	21.1	100.0	13,600	1,919
Yes	9.9	13.0	12.4	23.1	41.6	100.0	42,949	179
Total	**13.9**	**12.9**	**23.8**	**26.5**	**22.8**	**100.0**	**16,087**	**2,098**

Abbreviation: TZS, Tanzanian shillings.
Source: 2016 Kigoma Reproductive Health Survey.
[a] Exchange rate September 2016: 1 USD=2,181 TZS.
[b] Between 3–92 unknown responses for each expenditure. Total of 24 cases of in-kind payment removed from analysis. For unknown/in-kind expenditures, assumption of zero expenditures in that category.

Table 5.15 Expenditures Incurred (Mean, in TZS)[a] by Type of Expenditure During Labor and Childbirth
Most Recent Institutional Births Since January 2014, of Women Aged 15–49 Years [b]

	Amount paid for transport	Amount paid for delivery care	Amount paid informal fee (bribes)	Amount paid for supplies (at facility)	Amount paid for supplies (brought from home)	Amount paid for medications	Amount paid for accommodation	Amount paid for food at the facility	Amount paid for dependent-care	Amount paid for any other expense	Mean Total expenditures related to last institutional delivery since Jan. 2014
Residence											
Urban	3,006	2,326	469	480	6,061	828	146	95	1,011	1,826	16,248
Rural	3,947	3,598	114	438	5,300	471	57	248	815	1,057	16,045
Wealth tercile											
Low	3,463	3,957	89	583	5,396	452	43	135	631	841	15,590
Middle	3,439	3,135	121	371	4,883	248	40	194	894	891	14,216
High	4,274	2,977	331	397	6,020	887	135	304	1,012	1,825	18,163
Place of delivery											
Kigoma Hospital	6,377	3,221	372	426	5,209	949	238	480	1,508	1,448	20,227
Other Hospital	5,675	4,882	0	210	7,405	1,087	0	119	119	3,731	23,227
Kigoma Health Center	4,904	4,710	93	585	5,612	590	16	200	656	1,003	18,370
Kigoma Dispensary	754	2,158	151	378	5,302	162	15	50	626	945	10,540
Total	**3,752**	**3,333**	**188**	**447**	**5,458**	**545**	**76**	**216**	**855**	**1,217**	**16,087**

Abbreviation: TZS, Tanzanian shillings.
Source: 2016 Kigoma Reproductive Health Survey.
[a] Exchange rate September 2016: 1 USD=2181 TZS.
[b] Between 3–92 unknown responses for each expenditure. Total of 24 cases of in-kind payment removed from analysis. Average expenditures do not sum to total values due to cases where expenditure was unknown.

Table 5.16: Reasons Mentioned for Not Delivering in a Health Facility, by Selected Characteristics (Percent)

All Non-Institutional Births (Excluding in Transit) Since January 2014, of Women Aged 15–49 Years

	Cost Too Much	Facility not Open	Distance	Transportation Unavailable	Transportation Expensive	Do Not Trust Facility	Expect Poor Quality Service/Care	Fear of Abuse/Disrespect at Facility	Lack of Alternative Care for Family	No Accommodations Near Facility	No Female Provider at Facility	Baby Came Earlier than Expected	Husband/family Did Not Allow	Not Necessary	Not Customary	Other	Number of Births
Residence																	
Urban	6.3	1.9	6.7	23.6	1.9	2.1	4.2	6.3	3.9	0.0	0.0	61.5	2.0	0.0	4.2	9.0	45
Rural	2.7	4.0	18.4	8.0	7.9	2.2	1.2	2.0	9.8	0.8	0.9	43.3	2.7	7.6	5.9	4.2	1,284
One-way travel time to nearest health facility																	
Less than 30 min	1.7	4.8	8.7	9.4	2.6	2.9	0.9	2.6	9.8	0.8	1.2	50.5	0.9	5.5	4.1	5.9	229
30 min to 1 hour	5.0	5.2	6.4	4.6	4.0	2.9	2.7	2.6	10.8	1.5	1.7	47.1	2.7	6.4	7.1	5.3	400
1 to 2 hours	1.1	2.2	16.1	8.8	5.7	1.5	1.2	2.6	12.2	0.0	0.3	47.6	2.6	8.9	5.2	3.2	341
2+ hours	2.8	3.7	38.1	11.9	16.6	1.5	0.3	1.0	6.0	0.6	0.3	33.2	3.9	7.9	6.2	3.4	359
Age group (yr) at birth																	
< 25	3.8	4.1	20.1	9.1	10.8	2.2	1.8	2.7	11.7	1.0	0.6	39.8	4.0	7.8	3.1	4.1	507
25–34	1.7	4.8	19.4	7.4	6.2	2.2	0.7	1.2	7.9	0.5	1.0	44.5	2.4	7.3	6.7	4.1	548
35–49	3.3	2.0	11.1	9.7	4.8	1.8	1.8	3.2	9.2	0.7	1.1	50.7	0.7	6.5	9.5	5.4	274
Education level																	
No education	3.1	4.3	20.6	9.0	10.1	2.2	1.9	1.7	7.7	1.5	1.1	38.6	3.1	8.8	7.5	2.8	536
Some primary	1.3	3.9	15.5	10.0	6.5	2.4	0.9	1.3	16.1	0.4	1.3	46.5	2.0	5.9	5.5	6.0	225
Completed primary	3.4	3.7	16.7	7.6	5.9	1.8	0.7	2.6	8.7	0.2	0.5	47.1	2.8	6.9	4.5	5.5	535
Attended secondary or higher	0.0	2.9	14.6	5.3	5.6	5.6	5.7	8.1	11.6	0.0	0.0	60.5	0.0	0.0	3.2	0.0	33
Wealth tercile																	
Low	3.7	4.7	22.1	10.1	10.9	1.9	1.4	2.3	9.0	1.6	1.5	40.5	3.5	7.7	4.7	3.1	600
Middle	1.7	2.5	15.7	6.4	6.2	2.1	1.1	2.2	12.2	0.0	0.0	44.5	1.5	7.6	6.9	5.0	441
High	2.8	4.6	13.0	8.5	3.3	2.7	1.7	1.7	6.8	0.0	1.0	50.4	2.8	6.2	6.7	5.9	288
Total	**2.8**	**3.9**	**18.0**	**8.5**	**7.7**	**2.2**	**1.4**	**2.2**	**9.6**	**0.7**	**0.9**	**43.9**	**2.7**	**7.3**	**5.9**	**4.3**	**1,329**

Source: 2016 Kigoma Reproductive Health Survey.

Table 5.17: Person Who Decided Where to Deliver the Baby, by Place of Delivery (Percent Distribution)

Most Recent Births Since January 2014, of Women Aged 15–49 Years

	Person Who Decided Place of Delivery (%)												
	Pregnant Woman Herself	Husband/Partner	Both Woman & Husband/ Partner	Husband/Partner's Parent	Pregnant Woman's Parent	Nurse	Doctor	Traditional Birth Attendant (TBA)	Health Care Providers	Other Relative	Other	Total	Number of Births
Place of delivery													
Health Facility	26.8	26.3	36.5	2.5	3.9	2.4	0.7	0.0	0.3	0.5	0.0	100.0	2,098
Home	37.4	26.8	28.6	2.7	2.6	1.1	0.2	0.5	0.1	0.1	0.1	100.0	1,318
In transit/other/missing	28.9	39.1	25.6	0.8	2.8	1.0	0.0	0.0	0.0	0.0	1.7	100.0	110
Total	**30.8**	**26.9**	**33.2**	**2.5**	**3.4**	**1.9**	**0.5**	**0.2**	**0.2**	**0.3**	**0.1**	**100.0**	**3,526**

Source: 2016 Kigoma Reproductive Health Survey.

Table 5.18: Category of Personnel Assisting with Births, by Selected Characteristics (Percent)

Births Since January 2014, of Women Aged 15–49 Years

	Category of Personnel Assisting with Births (%)														
	Doctor/AMO	Clinical Officer	ACO	Trained Nurse/Midwife	MCH Aide	Medical Attendant	Nurse Asst.	Village Health Worker	TBA	Relative/Friend	Other	No One	Does Not Know	Any Skilled Attendant at Birth[a]	Number of Births
	SBA	SBA	SBA	SBA	SBA	SBA	SBA								
Residence															
Urban	13.7	1.2	1.7	77.5	1.3	1.6	6.8	0.0	4.5	6.0	0.2	2.3	0.2	89.2	493
Rural	4.7	1.6	1.7	44.9	0.2	1.0	3.5	0.1	32.4	16.1	0.0	4.0	0.0	53.7	3,033
Age group (yr) at birth															
< 25	6.9	1.8	1.7	51.3	0.8	1.1	3.4	0.0	28.6	15.3	0.1	1.7	0.1	61.2	1,400
25–34	5.2	1.4	1.8	47.9	0.2	0.9	4.5	0.1	28.2	15.1	0.1	4.3	0.1	56.9	1,427
35–49	5.4	1.4	1.6	48.9	0.0	1.6	3.8	0.2	29.0	12.6	0.0	6.5	0.0	57.1	699
Education level															
No education	3.8	0.9	1.3	37.7	0.0	1.0	3.8	0.1	36.9	17.6	0.1	5.1	0.1	44.9	1,024
Some primary	6.1	2.0	1.1	46.8	0.6	1.4	3.6	0.0	29.2	18.2	0.0	4.4	0.0	56.5	550
Completed primary	6.2	1.8	2.2	55.3	0.4	1.2	3.8	0.1	25.3	12.6	0.1	3.0	0.0	65.0	1,747
Attended secondary or higher	13.3	1.9	1.4	65.5	1.5	0.0	6.5	0.0	12.8	8.3	0.0	1.5	0.5	79.1	205
Wealth tercile															
Low	4.7	1.6	1.4	41.6	0.5	1.2	3.6	0.0	35.6	16.0	0.1	3.9	0.0	50.7	1,276
Middle	3.5	1.7	1.8	48.2	0.0	0.7	3.3	0.1	29.1	16.5	0.0	4.4	0.1	56.0	1,156
High	10.0	1.4	2.0	60.3	0.7	1.4	4.9	0.1	19.4	11.0	0.1	2.8	0.1	70.9	1,094
Place of delivery															
Health Facility	9.8	2.6	2.9	81.5	0.5	1.8	6.3	0.1	5.9	0.6	0.0	0.3	0.1	96.5	2,098
Home	0.0	0.1	0.0	1.7	0.1	0.1	0.2	0.1	63.0	35.1	0.1	9.0	0.0	2.1	1,318
In transit/other/missing	1.9	0.0	0.0	7.7	1.3	0.0	2.7	0.0	49.3	39.1	0.0	4.7	0.0	11.4	110
Year pregnancy ended															
2014	6.3	1.3	1.7	46.6	0.3	1.2	4.0	0.1	29.4	16.0	0.1	4.3	0.1	55.7	1,383
2015	5.4	2.0	1.5	50.2	0.3	1.4	3.4	0.1	28.8	14.2	0.0	3.4	0.0	59.1	1,299
2016	6.1	1.4	2.0	53.1	0.6	0.5	4.7	0.0	26.8	13.1	0.1	3.2	0.0	62.8	844
Total	**5.9**	**1.6**	**1.7**	**49.5**	**0.4**	**1.1**	**3.9**	**0.1**	**28.5**	**14.7**	**0.1**	**3.7**	**0.1**	**58.7**	**3,526**

Abbreviations: ACO: assistant clinical officer, AMO: assistant medical officer; MCH aide: maternal and child health aide; TBA: traditional birth attendant ; SBA: Skilled Birth Attendant

Source: 2016 Kigoma Reproductive Health Survey.

[a] Any skilled attendant includes: ACO; AMO; clinical officer; doctor; MCH aide; medical attendant; nurse assistant; TBA; or trained nurse/midwife.

Table 5.19: Children with Low Birth Weight, by Selected Characteristics (Percent)

Most Recent Live Births (with a Known Birth Weight) [a], Since January 2014, of Women Aged 15–49 Years

	Birth Weight Less Than 2.5 kg (%)	Number of Births [a]
Sex of baby		
Boy	5.8	1,563
Girl	6.7	1,599
Residence		
Urban	7.2	479
Rural	6.1	2,683
Age group (yr) at birth		
< 25	8.5	1,231
25–34	5.0	1,293
35–49	4.4	638
Education level		
No education	6.4	869
Some primary	7.6	499
Completed primary	5.9	1,603
Attended secondary or higher	4.9	191
Wealth tercile		
Low	6.3	1,094
Middle	6.5	1,044
High	6.0	1,024
Order of live births		
1	10.1	625
2	7.1	520
3	4.1	414
4	4.8	356
5	7.2	333
6	5.7	310
7	2.2	222
8	4.0	167
9	2.5	119
10 or more	6.8	96
Total	**6.2**	**3,162**

Source: 2016 Kigoma Reproductive Health Survey.

[a] 89.5% of births reported a known birth weight.

Table 5.20: Birth Registration, by Selected Characteristics (Percent)

Most Recent Live Births Since January 2014, of Women Aged 15–49 Years

	Child Has Birth Certificate (%)	Number of Births
Sex of baby		
Boy	7.9	1,761
Girl	7.5	1,770
Residence		
Urban	20.6	492
Rural	5.6	3,039
Age group (yr) at birth		
< 25	8.6	1,396
25–34	7.4	1,440
35–49	6.5	695
Education level		
No education	3.5	1,034
Some primary	7.6	556
Completed primary	8.2	1,740
Attended secondary or higher	25.6	201
Wealth tercile		
Low	5.5	1,278
Middle	4.9	1,165
High	13.5	1,088
Place of delivery		
Health facility	9.8	2,100
Home	4.2	1,322
In transit/other/missing	9.8	109
Total	**7.7**	**3,531**

Source: 2016 Kigoma Reproductive Health Survey.

Table 5.21: Breastfeeding, by Selected Characteristics (Percent)
Most Recent Live Births Since January 2014, of Women Aged 15–49 Years

	Ever Breastfed Most Recent Live Birth (%)	Number of Births	Breastfeeding Initiation, Among Ever Breastfed (%)		Number of Births Breastfed Babies
			Within an Hour	Within a Day	
Sex of baby					
Boy	96.3	1,761	82.2	96.5	1,696
Girl	97.7	1,770	84.2	96.7	1,728
Residence					
Urban	97.1	492	79.1	94.9	478
Rural	97.0	3,039	83.9	96.9	2,946
Age group (yr) at birth					
< 25	96.0	1,396	82.6	96.2	1,340
25–34	97.3	1,440	83.1	96.9	1,401
35–49	98.4	695	84.5	96.8	683
Education level					
No education	96.8	1,034	84.3	97.3	1,001
Some primary	97.3	556	78.7	95.9	541
Completed primary	96.9	1,740	84.2	96.9	1,686
Attended secondary or higher	97.5	201	81.4	92.2	196
Wealth tercile					
Low	96.7	1,278	83.2	96.1	1,235
Middle	97.5	1,165	85.1	98.0	1,136
High	96.7	1,088	81.1	95.6	1,053
Place of delivery					
Health facility	97.5	2,100	85.4	96.9	2,047
Home	96.0	1,322	79.9	96.3	1,269
In transit/other/missing	99.0	109	80.6	92.8	108
Total	**97.0**	**3,531**	**83.2**	**96.6**	**3,424**

Source: 2016 Kigoma Reproductive Health Survey.

Table 5.22: Women's Postnatal Checkups, by Selected Characteristics (Percent)

Births Since January 2014, of Women Aged 15–49 Years

	Received Postnatal Checkup Within 42 Days (%)	Number of Births
Residence		
Urban	28.0	493
Rural	15.4	3,033
Age group (yr) at birth		
< 25	16.3	1,400
25–34	17.2	1,427
35–49	18.7	699
Education level		
No education	14.9	1,024
Some primary	16.4	550
Completed primary	18.0	1,747
Attended secondary or higher	23.3	205
Wealth tercile		
Low	13.4	1,276
Middle	15.5	1,156
High	23.5	1,094
Place of delivery		
Health Facility	22.9	2,098
Home	7.3	1,318
In transit/other/missing	25.1	110
Total, 2016 Kigoma RHS	**17.2**	**3,526**
Tanzania, 2015-2016 DHS	**34.2**	**4,167**

Source: 2016 Kigoma Reproductive Health Survey, Comparison: 2015–2016 Tanzania Demographic and Health Survey.

Table 5.23: Timing of Women's Postnatal Checkups, According to Selected Characteristics (Percent Distribution)

Births Since January 2014, of Women Aged 15–49 Years Receiving a Postnatal Checkup

	Postnatal Checkup: Time After Delivery (%)					
	Less Than 48 Hrs	48 Hrs–6 Days	7–27 Days	28–41 days	Total	Number of Births To Women who had Postnatal Checkups
Residence						
Urban	86.4	4.5	7.0	2.1	100.0	138
Rural	84.2	8.0	4.8	3.0	100.0	477
Age group (yr) at birth						
< 25	88.1	4.2	6.0	1.7	100.0	233
25–34	81.6	10.0	5.7	2.7	100.0	249
35–49	84.6	7.2	3.6	4.7	100.0	133
Education level						
No education	88.2	4.2	3.1	4.5	100.0	155
Some primary	88.3	5.5	5.2	1.0	100.0	94
Completed primary	82.3	9.5	5.6	2.5	100.0	318
Attended secondary or higher	82.6	4.6	10.8	2.0	100.0	48
Wealth tercile						
Low	81.8	7.4	4.9	5.8	100.0	173
Middle	86.8	8.4	3.8	1.0	100.0	185
High	85.2	6.2	6.7	1.9	100.0	257
Place of delivery						
Health facility	89.0	4.5	4.6	1.9	100.0	488
Home	61.9	19.9	10.3	7.9	100.0	99
In transit/other/missing	89.3	10.7	0.0	0.0	100.0	28
Total	**84.7**	**7.2**	**5.3**	**2.7**	**100.0**	**615**

Source: 2016 Kigoma Reproductive Health Survey.

Table 5.24: Place of Woman's Postnatal Checkup, by Selected Characteristics (Percent Distribution)

Births Since January 2014, of Women Aged 15–49 Years Receiving a Postnatal Checkup

	Postnatal Checkup Place							
	Kigoma Hospital	Kigoma Health Center	Kigoma Dispensary	Home	CBD worker	Other	Total	Number of Births to Women who had Postnatal Checkups
Residence								
Urban	46.5	45.3	4.8	0.7	0.7	2.0	100.0	138
Rural	21.0	21.0	49.8	6.8	0.2	1.2	100.0	477
Age group (yr) at birth								
< 25	30.7	27.3	35.3	3.5	0.0	3.3	100.0	233
25–34	25.0	25.2	41.6	7.0	0.8	0.4	100.0	249
35–49	23.2	27.7	43.4	5.7	0.0	0.0	100.0	133
Education level								
No education	14.9	32.4	43.0	9.2	0.6	0.0	100.0	155
Some primary	17.1	34.6	44.2	1.0	0.0	3.1	100.0	94
Completed primary	31.7	21.4	39.7	5.6	0.3	1.2	100.0	318
Attended secondary or higher	50.4	26.3	19.4	0.0	0.0	3.9	100.0	48
Wealth tercile								
Low	19.1	27.0	47.8	5.0	0.0	1.1	100.0	173
Middle	24.0	22.6	44.2	7.6	0.5	1.1	100.0	185
High	33.9	29.0	30.7	4.1	0.4	1.9	100.0	257
Place of delivery								
Health Facility	32.5	30.6	34.7	1.1	0.0	1.2	100.0	488
Home	5.0	7.8	58.5	27.7	0.9	0.0	100.0	99
In transit/other/missing	2.9	20.4	59.2	3.3	3.5	10.7	100.0	28
Total	**26.8**	**26.5**	**39.6**	**5.4**	**0.3**	**1.4**	**100.0**	**615**

Abbreviation: CBD: Community-Based Distribution.
Source: 2016 Kigoma Reproductive Health Survey.

Table 5.25: Child Received Postnatal Checkup, by Selected Characteristics (Percent)

Most Recent Live Births Since January 2014 Where the Baby Survived, of Women Aged 15–49 Years

	Baby Received Postnatal Check within 2 Months of Birth (%)	Number of Births
Sex of baby		
Boy	79.9	1,739
Girl	79.8	1,755
Residence		
Urban	76.5	488
Rural	80.4	3,006
Age group (yr) at birth		
< 25	79.4	1,379
25–34	79.9	1,425
35–49	80.8	690
Education level		
No education	79.6	1,026
Some primary	77.3	551
Completed primary	80.9	1,717
Attended secondary or higher	79.3	200
Wealth tercile		
Low	79.7	1,263
Middle	83.1	1,155
High	76.6	1,076
Place of delivery		
Health facility	81.1	2,076
Home	78.3	1,309
In transit/other/missing	75.1	109
Total	**79.9**	**3,494**

Source: 2016 Kigoma Reproductive Health Survey.

Table 5.26: Complications Experienced Within 6 Weeks of Birth, by Selected Characteristics (Percent)

Most Recent Births Since January 2014, of Women Aged 15–49 Years

	Severe bleeding	Bad-Smelling Vaginal Discharge	Infection of Surgical Wound	Faint/Coma	High Fever (39–40C)	Painful Urination	Painful Uterus (Pelvic Pain)	Breast Infection	Continuous Leaking from Vagina [a]		Other	Any Complica-tion	Number of Births
									of Urine	of Feces			
Residence													
Urban	14.1	5.1	1.2	2.0	13.1	13.5	25.7	2.8	1.3	0.0	0.8	42.8	493
Rural	13.4	6.2	1.0	2.1	13.9	14.7	21.6	2.5	1.3	0.3	0.9	38.2	3,033
Age group (yr) at birth													
< 25	12.0	4.4	1.2	2.2	12.8	16.8	20.8	2.8	1.7	0.2	0.7	37.4	1,400
25–34	13.9	6.2	0.6	1.9	14.3	13.0	22.7	2.0	1.0	0.2	0.7	39.0	1,427
35–49	15.9	9.2	1.6	2.1	14.8	13.0	23.7	2.9	1.0	0.6	1.6	41.7	699
Education level													
No education	15.6	6.0	0.7	1.9	14.9	12.7	20.2	2.0	1.0	0.3	0.4	37.9	1,024
Some primary	12.8	7.9	0.9	2.0	13.7	14.1	25.8	2.6	1.3	0.7	1.3	39.7	550
Completed primary	12.9	5.5	1.2	2.3	13.3	15.6	21.8	2.6	1.3	0.2	1.0	38.7	1,747
Attended secondary or higher	10.4	6.5	1.8	1.2	12.7	15.9	25.4	3.7	2.5	0.0	1.0	43.1	205
Wealth tercile													
Low	15.3	6.1	1.3	2.3	14.6	14.3	22.3	1.9	1.4	0.4	1.1	38.5	1,276
Middle	12.2	6.4	0.8	2.1	14.6	14.9	21.0	2.2	1.1	0.3	0.7	37.2	1,156
High	12.9	5.7	1.0	1.8	11.9	14.4	23.3	3.6	1.3	0.2	0.8	41.1	1,094
Place of delivery													
Health facility	12.7	5.8	1.6	2.0	12.9	14.8	21.7	2.7	1.1	0.2	1.2	39.0	2,098
Home	15.0	6.6	0.2	2.3	14.9	14.2	23.1	2.2	1.6	0.4	0.5	39.0	1,318
In transit/other/missing	10.9	4.5	0.0	0.9	17.2	13.3	19.2	2.7	0.0	0.8	0.0	35.5	110
Received postnatal check within 42 days													
Yes	17.8	7.3	2.5	3.5	16.4	16.5	24.5	3.6	1.6	0.5	2.4	45.1	615
No	12.6	5.8	0.7	1.8	13.2	14.1	21.7	2.3	1.2	0.3	0.6	37.6	2,911
Total	**13.5**	**6.1**	**1.0**	**2.1**	**13.8**	**14.5**	**22.2**	**2.5**	**1.3**	**0.3**	**0.9**	38.9	**3,526**

Source: 2016 Kigoma Reproductive Health Survey.

[a] Leaking from vagina, indicating that the woman had an obstetric fistula that was caused by prolonged labor.

Table 5.27: Family Planning Counseling During Pregnancy (Including or After Delivery), by Selected Characteristics (Percent)

Most Recent Births Since January 2014, of Women Aged 15–49 Years

	Received Family Planning Counseling (%)	Number of Births
Residence		
Urban	84.5	493
Rural	74.3	3,033
Age group (yr) at birth		
< 25	71.3	1,400
25–34	77.2	1,427
35–49	81.5	699
Education level		
No education	68.8	1,024
Some primary	71.5	550
Completed primary	80.5	1,747
Attended secondary or higher	80.7	205
Wealth tercile		
Low	71.2	1,276
Middle	78.7	1,156
High	77.9	1,094
Place of delivery		
Health Facility	81.7	2,098
Home	65.4	1,318
In transit/other/missing	83.7	110
Total	**75.7**	**3,526**

Source: 2016 Kigoma Reproductive Health Survey.

Table 5.28: Timing of Family Planning Counseling Received During Pregnancy or After Delivery, by Selected Characteristics (Percent)

Most Recent Births Since January 2014 that Received Family Planning Counseling During Pregnancy, of Women Aged 15–49 Years

	Timing of Counseling Received (%)			Number of Births
	Antenatal Care	Time of Delivery	Postpartum Checkup	
Residence				
Urban	83.4	14.6	84.1	416
Rural	88.8	4.9	72.1	2,258
Age group (yr) at birth				
< 25	87.4	5.7	71.9	1,003
25–34	88.2	6.6	73.9	1,101
35–49	88.3	7.1	77.8	570
Education level				
No education	90.3	5.0	71.5	706
Some primary	83.2	5.9	72.4	392
Completed primary	88.4	6.7	76.4	1,409
Attended secondary or higher	85.2	11.0	67.5	167
Wealth tercile				
Low	88.6	5.8	71.8	909
Middle	89.1	5.1	73.0	911
High	86.0	8.4	77.3	854
Place of Delivery				
Health Facility	86.7	8.8	81.5	1,717
Home	90.4	1.9	58.7	864
In transit/other/missing	88.4	3.5	75.9	93
Year pregnancy ended				
2014	86.8	6.6	76.3	1,048
2015	87.8	6.3	72.9	998
2016	89.9	6.2	71.7	628
Total	**87.9**	**6.4**	**73.9**	**2,674**

Source: 2016 Kigoma Reproductive Health Survey.

References:

- WHO. Pregnancy, childbirth, postpartum and newborn care: A guide for essential practice. 3rd ed. Geneva: WHO; 2015
- WHO. Recommendations on intermittent screening and treatment in pregnancy and the safety of ACTs in the first trimester; November 2015; Available at: http://who.int/entity/malaria/publications/atoz/istp-and-act-in-pregnancy.pdf
- President's Malaria Initiative. Tanzania Malaria Operational Plan FY 2015; Available at: https://www.pmi.gov/docs/default-source/default-document-library/malaria-operational-plans/fy16/fy-2016-tanzania-malaria-operational-plan.pdf?sfvrsn=4
- United Republic of Tanzania, Ministry of Health and Social Welfare. The National Road Map Strategic Plan To Accelerate Reduction of Maternal, Newborn and Child Deaths in Tanzania; 2008 – 2015; Available at: http://www.who.int/pmnch/countries/tanzaniamapstrategic.pdf
- WHO. Making Pregnancy Safer: the Critical Role of the Skilled Attendant: a Joint Statement by WHO, ICM (International Confederation of Midwives) and FIGO (International Federation of Gynecology and Obstetrics). Geneva: WHO; 2004. Available at: http://www.who.int/maternal_child_adolescent/documents/9241591692/en/
- WHO. Managing Complications in Pregnancy and Childbirth: a Guide for Midwives and Doctors. Geneva: WHO; 2007. Available at: http://whqlibdoc.who.int/publications/2007/9241545879_eng.pdf?ua=1.
- United Nations Children's Fund (UNICEF). IMPROVING CHILD NUTRITION; April 2013. Available at: http://data.unicef.org/wpcontent/uploads/2015/12/NutritionReport_April2013_Final_29.pdf.
- Warren C, Daly P, Toure L, Mongi P. Postnatal Care. In: Lawn J, Kerber K, eds. Opportunities for Africa's Newborns. Cape Town, South Africa: Partnership for Maternal, Newborn, and Child Health; 2006. Available at: http://www.who.int/pmnch/media/publications/oanfullreport.pdf?ua=1.
- WHO. Fact sheet number 351: Family planning. Geneva: WHO Media Centre; 2013. Available at: http://www.who.int/mediacentre/factsheets/fs351/en.

Chapter 6: Infant, Child, and Perinatal Mortality

This chapter presents estimates of the levels and differentials in perinatal, infant, and child mortality from the 2016 Kigoma RHS. Mortality estimates were derived from data collected on each woman's complete history of pregnancies, including information such as pregnancy outcomes, dates of pregnancy termination, whether live born children were still living, and age at death for live born children who died. This information was used to estimate mortality rates for specific periods of time. Using Life-Table calculations, **age-specific rates** are defined as follows:

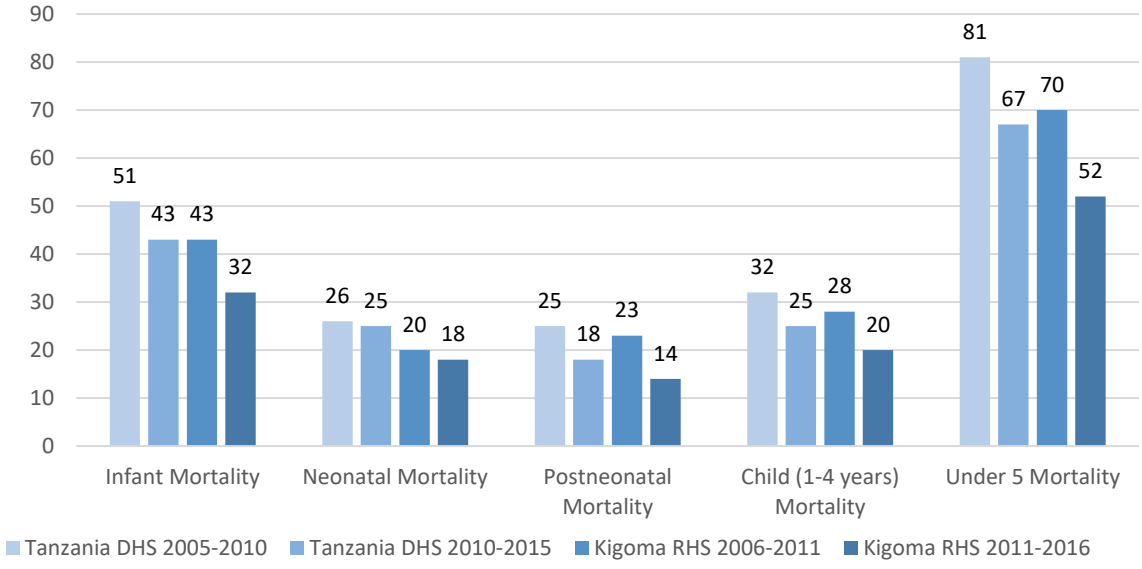
1. **Infant mortality** ($_1q_0$): Probability of baby dying before its first birthday.
2. **Neonatal mortality**: Probability of baby dying during its first 28 days of life.
3. **Postneonatal mortality**: Probability of baby dying between 28 days and 1 year (calculated as the difference between neonatal and infant mortality).
4. **Child mortality** ($_4q_1$): Probability of child dying between his or her first and fifth birthdays.
5. **Under-5 mortality** ($_5q_0$): Probability of child dying before his or her fifth birthday.
6. **Stillbirth rate**: Ratio of stillbirths to all births (live births + stillbirths).
7. **Early neonatal mortality**: Probability of baby dying within the first week after birth (7 days).
8. **Perinatal mortality:** Ratio of perinatal deaths (stillbirths + early neonatal deaths) to all births (live births + stillbirths).

All rates are expressed as deaths per 1,000 live births, with the exceptions of child mortality (per 1,000 survivors to age 1 year), and stillbirth and perinatal mortality (both are per 1,000 live births + stillbirths). The infant and child mortality estimates are presented with 95% confidence intervals (CI). Stillbirths are defined as births after 22 or more weeks of gestation that show no signs of life after separation from the mother. For comparison of changes over time in Tanzania and Kigoma Region, the figure also includes estimates from both the 2010 and 2015 Tanzania Demographic and Health Surveys.

The results from the 2016 Kigoma RHS survey shows a 25 percent decline in **overall infant mortality** (neonatal and postneonatal) from 43 to 32 deaths per 1,000 live births between 2006-2011 and 2011-2016 (Figure 6.1). Declines of a similar magnitude were noted for **postneonatal mortality** (from 23 to 14 deaths per 1,000 live births) and **child mortality** (from 28 to 20 per 1,000 survivors to age 1). There was little change, however, in **neonatal mortality** from 20 to 18 deaths per 1,000 live births. This finding suggests that the gains made in reduction of **under-5 mortality** have been made primarily in the postneonatal and 1 to 4 years age groups. Potential explanations for the relative smaller reduction in neonatal mortality compared to other under-5 age groups include the possibility that neonatal mortality didn't decline as much as older child mortality, and that the classification of live births may have improved, meaning that fewerneonates may have been misclassified as stillbirths in 2016 than in the previous RHS (Table 6.1).

For comparison of changes over time in Tanzania and Kigoma Region, Figure 6.1 also includes estimates from both the 2010 and 2015 Tanzania DHS. The Kigoma 2011–2016 RHS estimates for infant, neonatal, postneonatal, child, and under-5 mortality rates are consistently lower than the 2010–2015 national DHS estimates. Overall, patterns of change over time in neonatal, postneonatal, child and under-five mortality rates in the Kigoma Reproductive Health Surveys mirrored changes over time in national estimates found in the Demographic and Health Surveys of 2005–2010 and 2010–2015.

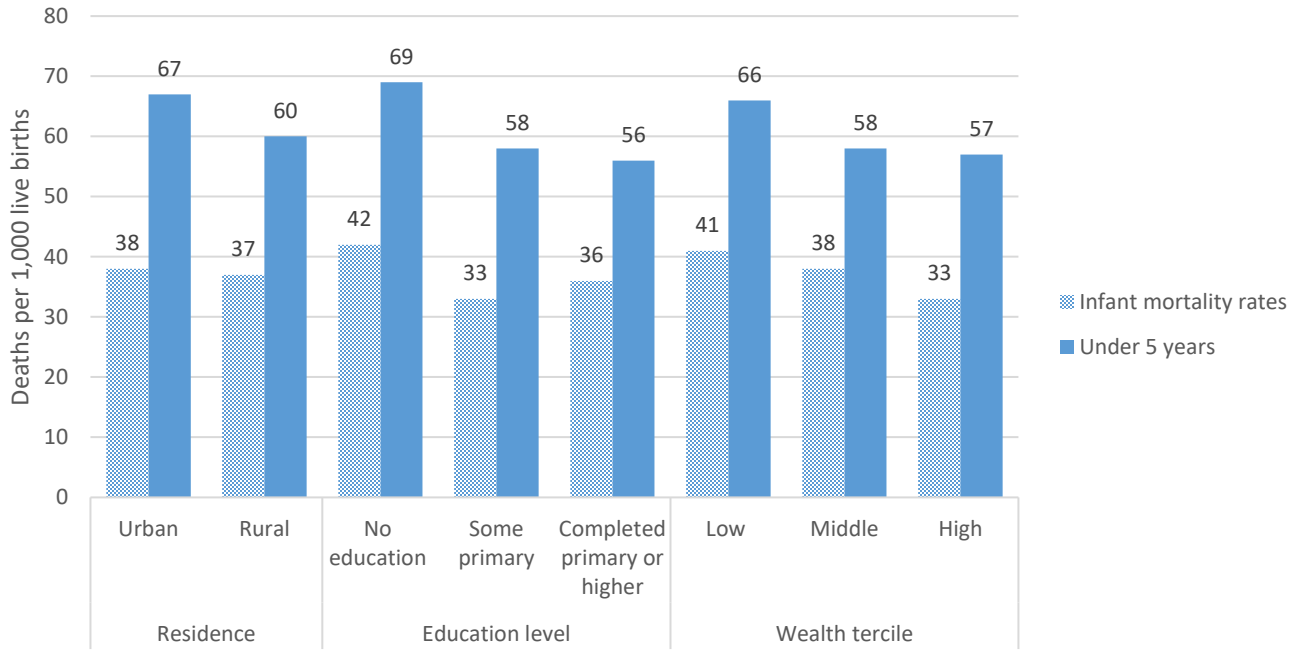
Figure 6.1: Neonatal, Postneonatal, Child, and Under-5 Years Mortality Rates for 5-Year Periods



Sources: 2010, 2015–2016 Tanzania Demographic Health Survey; 2014, 2016 Kigoma Reproductive Health Survey.

There were only small differences in mortality **among infants and among children under age 5 years** by **mother's area of residence.** Rural infant and under-5 mortality rates (37 and 60 deaths per 1,000, respectively) were slightly lower than the urban rates (38 and 67 deaths per 1,000, respectively) (Figure 6.2). Differences in infant and under-5 mortality rates by **mother's education level** were as expected; the rate for infants and under-5 children of women with no education (42 and 69 deaths per 1,000, respectively) were higher than that for infants and children born to women with some primary education (33 and 58 deaths per 1,000, respectively). Differences in infant and under-5 mortality rates by **wealth tercile** were as expected; the rate for infants and under-5 children of women in the low wealth tercile (41 and 66 deaths per 1,000, respectively) were higher than that for infants and children born to women in the middle (38 and 58 deaths per 1,000, respectively) and high wealth terciles (33 and 57 deaths per 1,000, respectively) (Table 6.2).

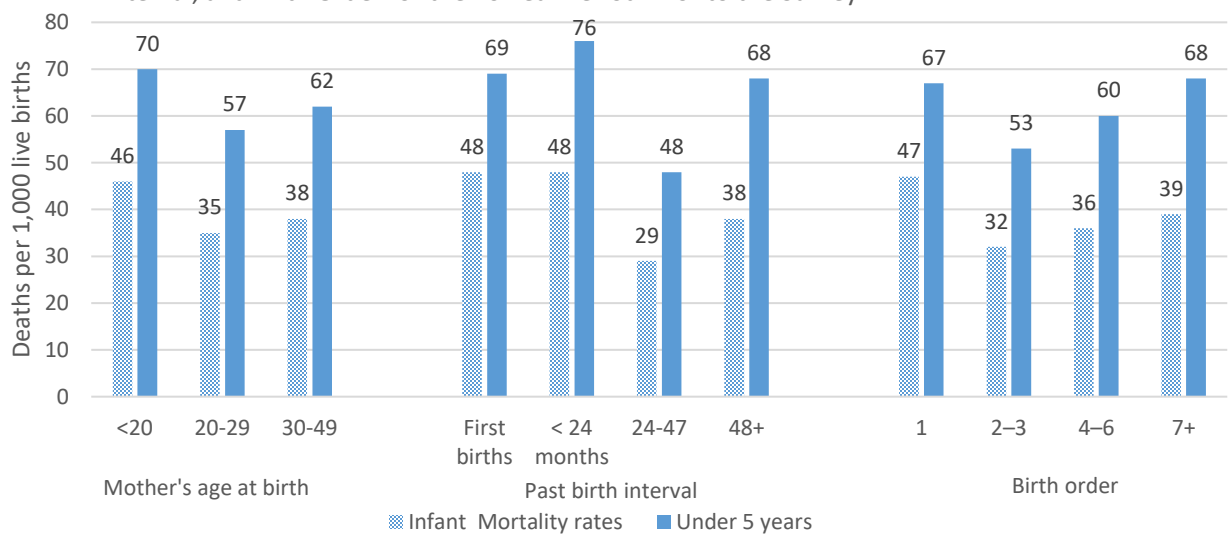
Figure 6.2: Infant and Under-5 Mortality rates by Residence, Mother's Education Level and by Wealth Tercile, 10 Year Period Prior to Survey



Source: 2016 Kigoma Reproductive Health Survey.

The infant and under-5 mortality rates varied by **mother's age at birth**, previous birth interval, and birth order (Figure 6.3). The highest infant and under-5 mortality rates were found in women younger than 20 years (46 and 70 deaths per 1,000, respectively) and in women 30–49 years (38 and 62 deaths per 1,000, respectively) when compared to the middle age group; a similar pattern was found for the 2014 RHS. Women with a previous **birth interval** of less than 24 months and greater than or equal to 48 months had higher infant and under-5 mortality rates (48 and 76 deaths per 1,000, respectively) when compared to the birth intervals of 24–47 months. For **birth order**, first birth order (47 and 67 deaths per 1,000, respectively) and 7+ birth order (39 and 68 deaths per 1,000, respectively) had higher mortality rates than the other two birth order categories (Table 6.2).

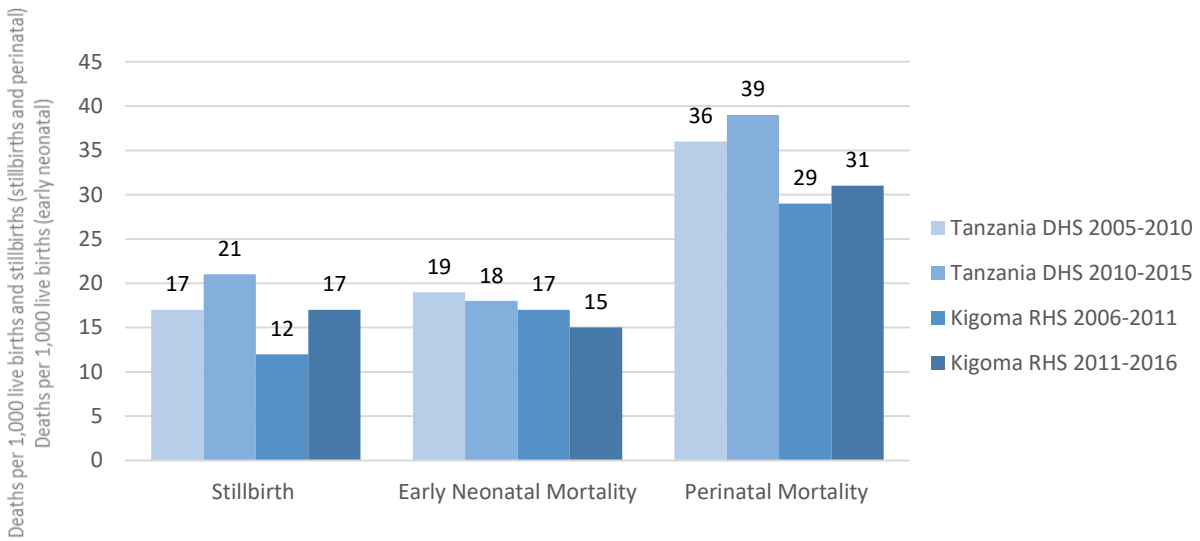
Figure 6.3: Infant and Under-5 Mortality Rates by Mother's Age at Birth, Previous Birth Interval, and Birth Order for the 10 Year Period Prior to the Survey



Source: 2016 Kigoma Reproductive Health Survey.

Similar to infant and child mortality, Kigoma estimates (2011–2016) for **stillbirth, early neonatal, and perinatal mortality** are consistently lower than the national Tanzania estimates (2010–2015) (Figure 6.4). Comparing the two five year periods in the Kigoma survey, the early **neonatal mortality rate** decreased only slightly from 17 deaths per 1,000 live births (2006–2011) to 15 deaths per 1,000 live births (2011–2016). The stillbirth and perinatal mortality rates, however, increased during this same period; the reported **stillbirth rate** increased from 12 to 17 per 1,000 live births + stillbirths, and the **perinatal mortality rate** increased slightly from 29 to 31 per 1,000 live births + stillbirths. It is possible that this result is due to improved reporting of early deaths, especially stillbirths, in the most recent period (Table 6.3).

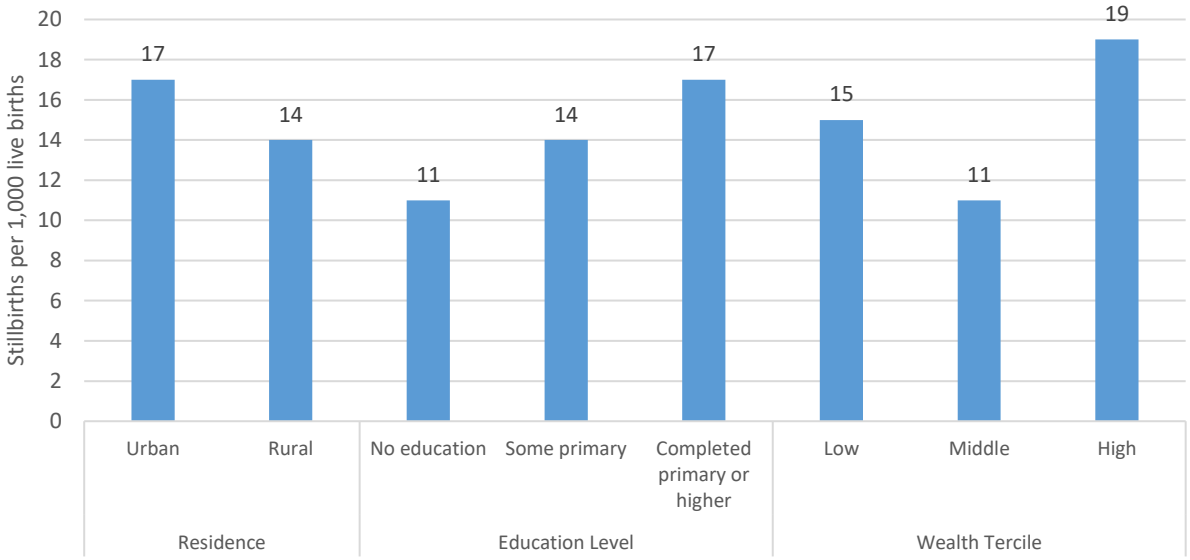
Figure 6.4: Stillbirth, Early Neonatal, and Perinatal Mortality Rates for 5-Year Periods



Source: 2016 Kigoma Reproductive Health Survey, 2015-2016 Tanzania Demographic Health Survey.

Over the 10-year period before the 2016 survey (August 2006–July 2016), **perinatal mortality rates** were unexpectedly higher for urban vs rural women (Stillbirth: 17 vs 14 deaths per 1,000 live births and stillbirths (Figure 6.5). Also unexpectedly, **stillbirths** were highest among women with higher education (Completed primary or higher: 17 deaths per 1,000 live births and stillbirths; some education: 14; and no education: 11) and those in the high wealth tercile (High tercile: 19 deaths per 1,000 live births and stillbirths; Middle tercile: 11; Low tercile: 15). One potential explanation for these findings is that women with higher education and those who live in urban areas are more likely to deliver in facilities where deaths would be recorded and known, so they may be more likely to disclose perinatal losses compared to other women (Table 6.4).

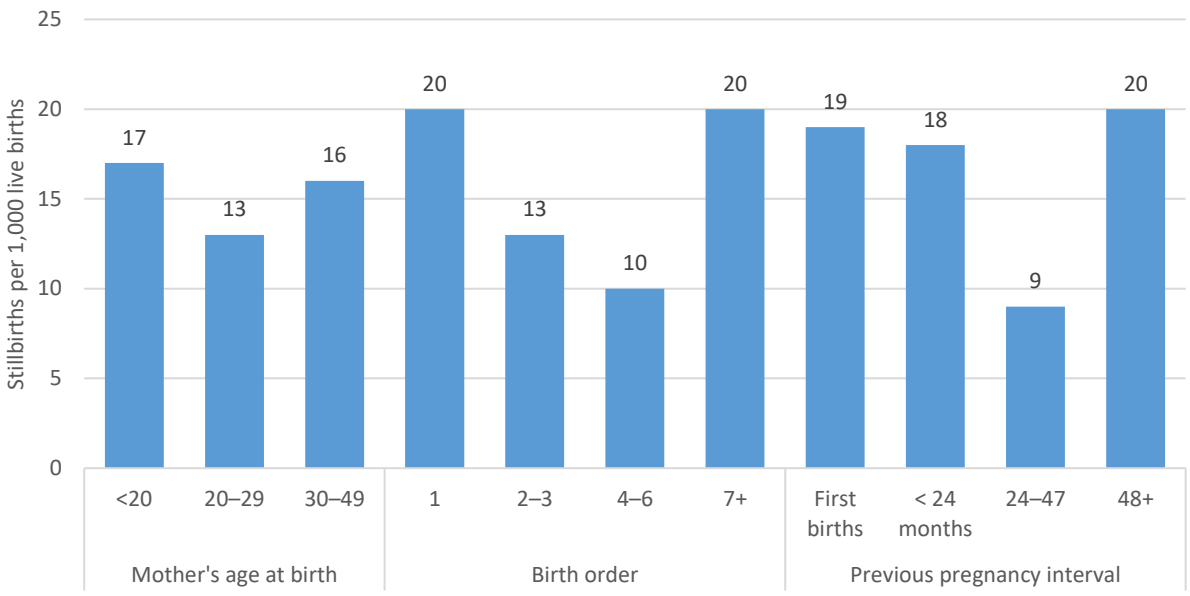
Figure 6.5: Rates of Stillbirth by Mother's Area of Residence, Mother's Education level, and Wealth Tercile



Source: 2016 Kigoma Reproductive Health Survey.

As observed for infant and child mortality, **stillbirth** and perinatal mortality rates by **mother's age** at birth, birth order, and previous birth interval were highest among infants of mothers at the highest and lowest limits of each category (Figure 6.6). Early **neonatal mortality** was highest among women younger than 20 years (24 deaths per 1,000 live births), first births (25 deaths per 1000 live births), birth interval less than 24 months (20 deaths per 1,000 live births), and first birth order (24 deaths per 1,000 live births) (Table 6.4).

Figure 6.6: Rates of Stillbirth by Maternal age, Birth Interval, and Birth Order



Source: 2016 Kigoma Reproductive Health Survey.

Implications for Programs

Mortality would most likely be decreased by **improving the quality of care** for women who are less than 20 years of age and those who are 30 or older, those who have very short or very long birth intervals, and nulliparous and grand-multiparous women. **Reducing unintended pregnancies** among these women and improving birth spacing could also help reduce mortality. More programmatic focus on women with no education and low income would likely yield greater impact on reducing mortality rates. Perinatal health could be improved by **improving the quality of care in late pregnancy, during labor and delivery, and in the early neonatal period.**

Tables

Table 6.1: Infant [a], Neonatal [a], Postneonatal [a], Child [b], and Under-Five [a] Mortality Rates for Five-Year Periods Prior to Survey

	Tanzania (DHS: 2010–2015)			Kigoma (RHS: 2006–2011)			Kigoma (RHS: 2011–2016)		
	Estimate	95% CI		Estimate	95% CI		Estimate	95% CI	
Age		Low	High		Low	High		Low	High
Infant ($_1q_0$)[c]	43	38	48	43	37	49	32	28	37
Neonatal	**25**	22	30	**20**	16	24	**18**	15	21
Postneonatal	**18**	15	21	**23**	18	28	**14**	11	17
1 to 4 years ($_4q_1$)[c]	25	21	29	28	22	34	20	16	24
Under 5 years ($_5q_0$)[c]	67	60	74	70	61	80	52	46	58

Abbreviation: CI, confidence interval
Source: 2016 Kigoma Reproductive Health Survey.
[a] per 1,000 stillbirths and live births.
[b] per 1,000 survivors to age one.
[c] $_1q_0$, infant mortality (probability of baby dying before its first birthday); $_4q_1$, child mortality (probability of child dying between its first and fifth birthdays); $_5q_0$, under-5 mortality (probability of child dying before its fifth birthday).
Comparison: 2015–2016 Demographic and Health Survey, Tanzania (last 0–4 years).

Table 6.2 presents differentials in the estimated values for mortality among infants and children under age 5 years for various characteristics, based on information from the survey for a 10-year period (August 2006–July 2016).

Table 6.2: Differentials in Infant and Under-Five Years Mortality for the 10-year period Prior to the Survey [a]

	Infant mortality rates			Under-5 mortality rates		
	Estimate	95% CI		Estimate	95% CI	
		Low	High		Low	High
Residence						
Urban	**38**	28	48	**67**	50	84
Rural	**37**	33	42	**60**	53	66
Education level						
No education	**42**	35	49	**69**	59	79
Some primary	**33**	25	41	**58**	44	71
Completed primary or higher	**36**	31	41	**56**	49	63
Wealth tercile						
Low	**41**	34	48	**66**	55	76
Middle	**38**	31	44	**58**	49	68
High	**33**	26	39	**57**	47	66
Mother's age at birth						
<20	**46**	35	57	**70**	57	84
20–29	**35**	29	40	**57**	50	64
30–49	**38**	32	44	**62**	53	70
Previous birth interval (all pregnancies)						
First births	**48**	38	58	**69**	56	81
< 24 months	**48**	39	57	**76**	64	88
24–47	**29**	23	34	**48**	41	56
48+	**38**	29	47	**68**	55	81
Birth order (live births + stillbirths)						
1	**47**	37	57	**67**	56	79
2–3	**32**	26	37	**53**	45	62
4–6	**36**	29	43	**60**	51	69
7+	**39**	31	47	**68**	57	79
Total	**37**	**33**	**41**	**61**	**54**	**67**

Abbreviation: CI: confidence interval.
Source: 2016 Kigoma Reproductive Health Survey.
[a] deaths per 1,000 live births.

Table 6.3: Stillbirth, Early Neonatal, and Perinatal Mortality Rates for Five-Year Periods Prior to the Survey
All Births Since July 2006, of Women Aged 15–49

	Tanzania (DHS)	Kigoma (RHS)	
	2010–2015	2006–2011	2011–2016
Stillbirth rate [a]	21	12	17
Early neonatal mortality [b]	18	17	15
Perinatal mortality [a]	39	29	31
Number of births	10,163	5,851	6,648

Source: 2016 Kigoma Reproductive Health Survey.
[a] per 1,000 stillbirths and live births.
[b] per 1,000 live births.
Comparison: 2015–2016 Demographic and Health Survey.

Table 6.4: Stillbirth, Early Neonatal, and Perinatal Mortality Rates for the 10-Year Period Prior to Survey
All births since July 2006, of Women Aged 15–49

Characteristic	Stillbirth Rate	Early Neonatal Mortality Rate [b]	Perinatal Mortality Rate [a]	Number of Stillbirths and Live Births
Residence				
Urban	17	21	37	1,766
Rural	14	15	29	10,733
Education level				
No education	11	17	28	4,152
Some primary	14	17	31	1,802
Completed primary or higher	17	14	31	6,545
Wealth tercile				
Low	15	15	30	4,397
Middle	11	17	28	4,333
High	19	14	33	3,769
Mother's age at birth				
<20	17	24	41	1,734
20–29	13	14	26	6,156
30–49	16	14	31	4,609
Previous birth interval [c]				
First births	19	25	44	2,181
< 24 months	18	20	38	2,400
24–47	9	9	19	5,812
48+	20	18	38	2,106
Birth order [d]				
1	20	24	44	2,282
2–3	13	15	27	3,776
4-6	10	12	22	4,145
7+	20	16	36	2,296
Total	15	16	30	12,499

Source: 2016 Kigoma Reproductive Health Survey.
[a] per 1,000 stillbirths and live births.
[b] per 1,000 live births.
[c] denominator includes all pregnancies.
[d] denominator includes all live births and stillbirths.

Chapter 7: Opinions about Contraception and Family Planning

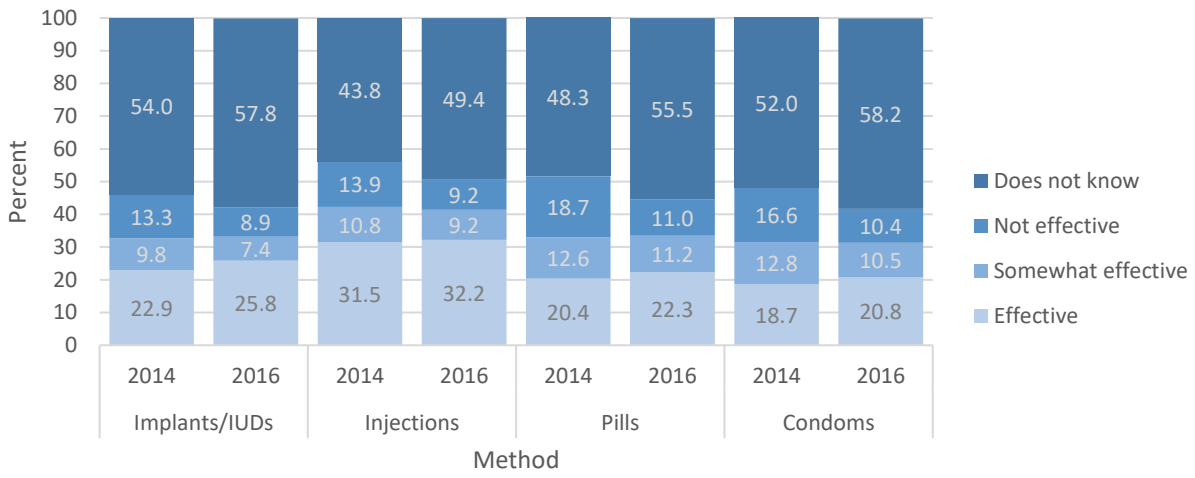
To design the best possible family planning programs and disseminate contraception information effectively, it is important to identify which women are most likely to need the information and how best to reach them. This chapter provides insight into Kigoma women's opinions about contraception, as well as their access to and preferences for family planning information.

Perceptions of Effectiveness of Contraceptives

Kigoma women aged 15–49 years were asked about their perceptions of the effectiveness of contraceptives for preventing pregnancy. Specifically, they were asked whether they thought each of several modern methods was effective (very effective and effective responses were combined), somewhat effective, not effective, or they did not know (Figure 7.1, Table 7.1). About one-third of women in 2016 said they thought each method was **effective or somewhat effective** (implant/IUD, 33.2%; injection, 41.4%; pill, 33.5%; condom, 31.3%), and about one-tenth thought the methods were not effective. The majority, however, said they did not know about the effectiveness of each of the four methods (implant/IUD, 57.8%; injection, 49.4%; pill, 55.5%; condom, 58.2%).

Women's perceptions of the method effectiveness increased slightly from 2014, but the percentage of women who said they did not know about the effectiveness of the methods increased even more. The percentage of women who did not know about the effectiveness of contraceptive methods was highest for rural residents (ranging across methods from 52.2%–62.0%) and for women in the youngest age group (ranging across method from 75.2%–77.3%). A larger percentage of women who had ever used a modern contraceptive method felt that each method was effective (ranging across methods from 33.0%–60.4%), compared with women who had never used modern contraception (ranging across methods from 14.5%–17.8%). Further details on women's knowledge and perceptions of method effectiveness are presented in Table 7.1 by urban/rural residence, maternal age group, educational level, and experience with modern contraception.

Figure 7.1: Perceived Effectiveness of Contraceptive Methods for Preventing Pregnancy, by Method, Among All Women Aged 15-49 (Percent Distribution)



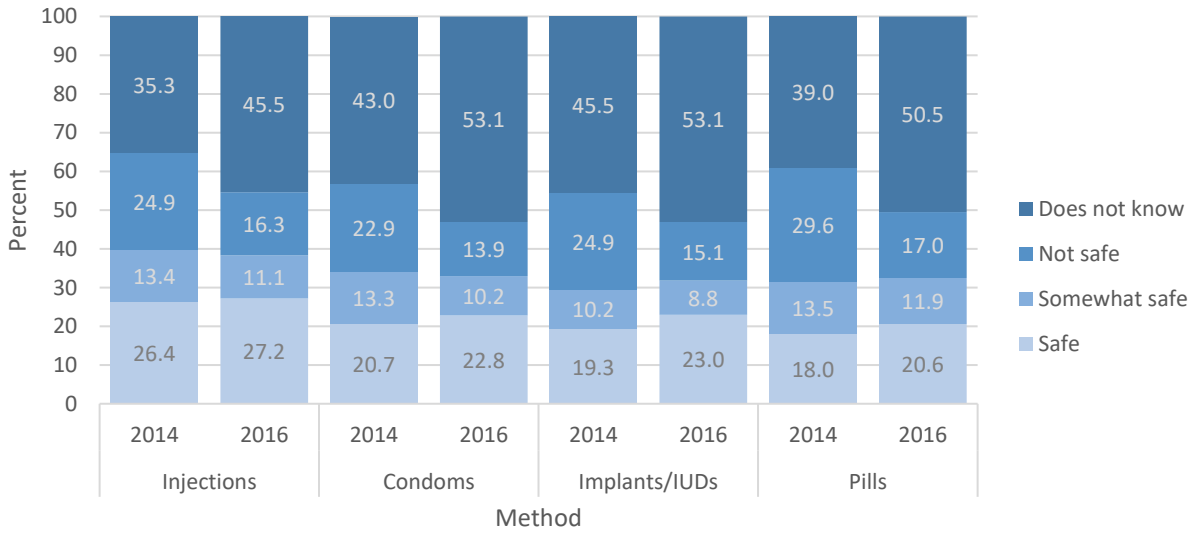
Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Perceptions of Safety of Contraceptives

Women were also asked about their perceptions of the methods' safety, based on the perceived risk of the method causing health problems. Specifically, women were asked if they thought the methods were safe (very safe and safe were combined), somewhat safe, not safe, or they did not know. (Figure 7.2, Table 7.2). Similar to women's perceptions of effectiveness, about one-third of women said they thought each method was **very safe or somewhat safe** (implant/IUD, 31.8%; injection, 38.3%; pill, 32.5%; condom, 33.0%). About half of women said they **did not know** whether the methods were safe or unsafe (implant/IUD, 53.1%; injection, 45.5%; pill, 50.5%; condom, 53.1%). About one-sixth of women said they perceived the methods as **unsafe** (implant/IUD, 15.1%; injection, 16.3%; pill, 17.0%; condom, 13.9%).

The percentage of women who said they did not know about the safety of methods increased since 2014 (implant/IUD, 7.6 percentage point increase; injection, 10.2 increase; pill, 11.5 increase; condom, 10.1 increase). The percentage of women perceiving the methods to be unsafe decreased since 2014 by nearly approximately the same number of percentage points. Further details on women's knowledge and perceptions of method safety are presented in Table 7.2 by urban/rural residence, maternal age group, educational level, and experience with modern contraception.

Figure 7.2: Perceptions of Safety of Contraceptive Methods Among Women Aged 15–49 Years, by Method (Percent Distribution)



Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Attitudes towards Family Planning

All respondents were asked their opinions on various statements that pertain to family planning and decision-making around contraception. Most women had **favorable opinions** of statements supporting family planning. The percentage of women who agreed with the following statements remained relatively unchanged since 2014 (Figure 7.3, Table 7.3):

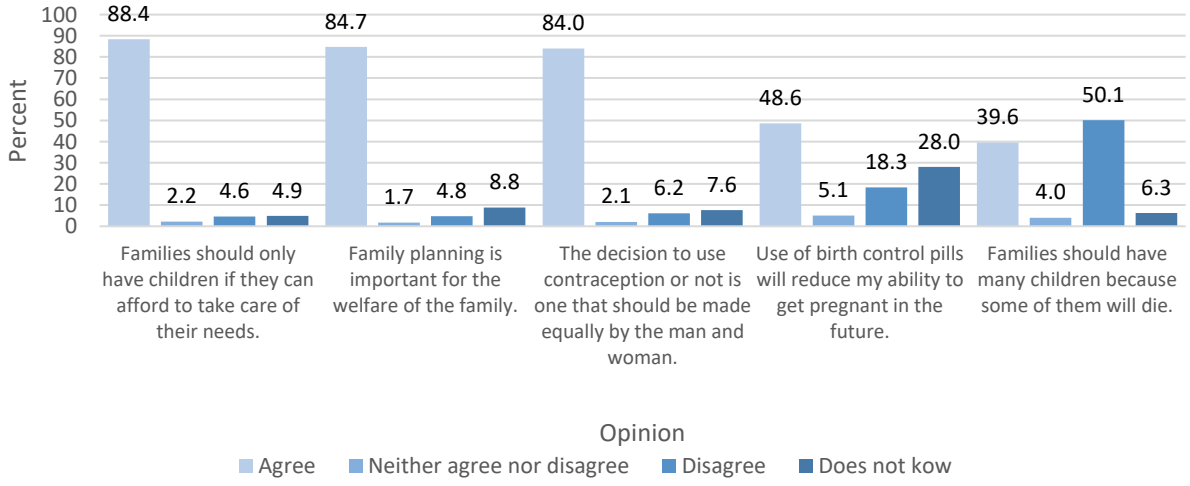
- *Families should only have children if they can afford to take care of their needs, including food, health care, clothing, and schooling*: from 89.2% in 2014 to 88.4% in 2016.
- *Family planning is important to the welfare of the family*: from 86.2% in 2014 to 84.7% in 2016.
- *The decision to use contraception or not is one that should be made equally by the man and woman*: from 83.9% in 2014 to 84.0% in 2016.

The percentage of women who agreed with the following misconceptions decreased since 2014:

- *Use of birth control pills or injections will reduce my ability to get pregnant in the future:* from 63.1% in 2014 to 48.6% in 2016.
- *Families should have many children because some of them will die:* from 45.3% in 2014 to 39.6% in 2016.

Variation by urban/rural residence, age, union status, education level, and experience is shown in Table 7.3.

Figure 7.3: Opinions on Statements Pertaining to Family Planning Among Women Aged 15–49 Years (Percent Distribution)

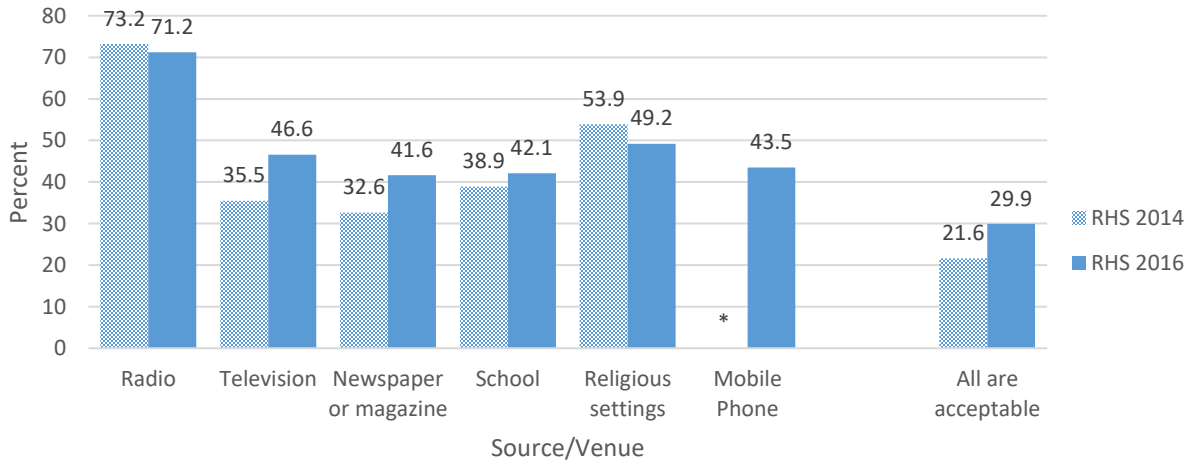


Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Acceptable Venues for Family Planning Information

Communication campaigns promoting family planning and contraception are more likely to be effective if they use communication channels that women feel are acceptable for such information. All respondents were asked whether they felt the following venues were acceptable for providing information on family planning and contraception: radio, television, newspapers/magazines, schools, religious settings, and mobile phones (Figure 7.4, Table 7.4). Nearly one-third (29.9%) of women said they felt that **all six venues were acceptable** for family planning information, an increase from 21.6% in 2014. **Radio** was the most favored source of family planning information; nearly three-quarters (71.2%) of women said that radio was an acceptable venue. Between two-fifths and one-half of women felt that each of the other venues were acceptable (religious settings, 49.2%; television, 46.6%; mobile phone, 43.5%; school, 42.1%; newspaper/magazine, 41.6%). Larger proportions of women found all the venues more acceptable in 2016 than in 2014, with the exception of radio and religious settings. Further details on perceived acceptability of venues for family planning information are presented in Table 7.4 by rural/urban residence, education level, income, and experience with modern method use.

Figure 7.4: Women Aged 15–49 Years Who Considered Various Sources/Venues Acceptable for Family Planning Information, by Residence (Percent)

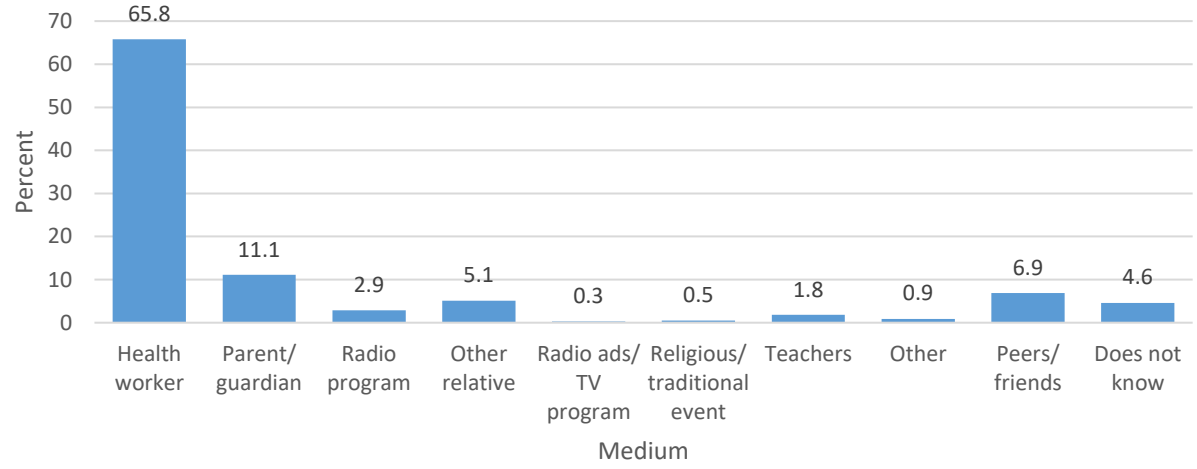


* 2014 RHS did not include Mobile phone question.
Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Preferred Source of Information for Sex Education

Educational outreach campaigns can be more effective if programs understand which people or media young women prefer to go to for sex education information. The RHS asked young women, aged 15–24 years, for their preferred source of information for sex education (Figure 7.5, Table 7.5).[2] Two-thirds (65.8%) of young women said they preferred to obtain sex education information from **health workers**. This response was more common among women aged 20–24 (68.9%) than among women aged 15–19 (59.5%). About one-tenth (11.1%) of young women said they preferred to obtain sex education information from **parents or guardians**. This response was more common among women aged 15–19 (13.6%) than among women aged 20–24 (9.9%). Less than one-tenth said they preferred to receive sex education information from **peers or friends** (6.9%) or other relatives (5.1%); 4.6% of young women said they **did not know their preferred source** of information. Unlike the broader population of all women of reproductive age, young women were not interested in getting information from the radio, TV, or religious settings, nor did they want to receive it from teachers. Further details on preferred mediums for sex education are presented in Table 7.5 by urban/rural residence, age category, educational level, wealth tercile, and experience with modern contraception.

Figure 7.5: Preferred Medium for Sex Education Topics Among Women Aged 15–24 Years (Percent Distribution)



Source: 2016 Kigoma Reproductive Health Survey.

Preferred Person for Family Planning Information

Understanding which sources women of all ages prefer to receive family planning information from can guide efforts to strengthen family planning outreach. All respondents were asked to whom they would most want to

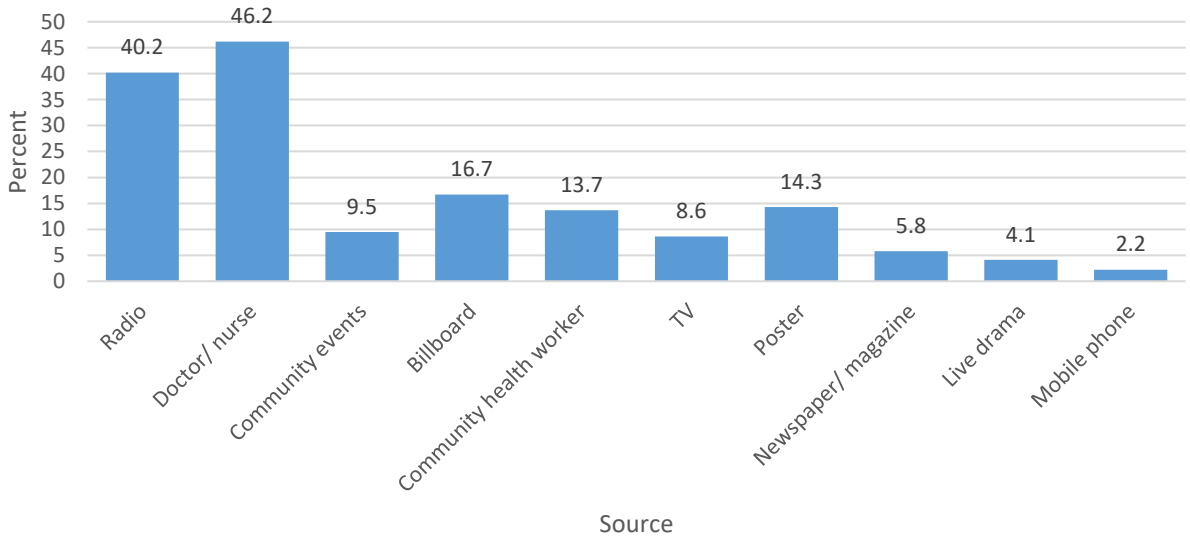
[2] The response options for this question were slightly different between the 2014 and 2016 survey questionnaires. The 2014 questionnaire included 'health workers', whereas the 2016 questionnaire included 'clinic staff' and 'community health workers'.

talk about family planning (Figure 7.6; Table 7.6). Over three-quarters (77.6%) of women said they would prefer to talk to a **health worker** about family planning. This response was more common among women over age 20 (79.3%–90.4%) compared to women aged 15–19 (52.2%). Six percent (6.4%) of women said they preferred to talk to their **parents or guardians** about family planning. This response was more common among women aged 15–19 (20.8%) compared to women over age 20 (0.5%–4.3%). Fewer than 5% of women preferred to talk to **other types of people** (Table 7.6). Further details are presented in Table 7.6 by urban/rural residence, age group, education level, wealth tercile, and experience with modern contraception.

Exposure to Family Planning Messaging

Understanding the sources of information through which women have been exposed to family planning information in the past can help programs more effectively guide communications campaigns (Figure 7.7). Women were asked the sources through which they had been exposed to family planning messaging in the six months preceding the interview. Almost half (46.2%) of women said they received family planning information from a **doctor or nurse** (Table 7.7), an increase from 43.8% in 2014. Two-fifths (40.2%) of women said they received family planning information from the **radio**. This is nearly a 10 percentage point decrease from 2014, when 49.8% of women said they heard about family planning on the radio. Less than one-fifth of women said they received family planning information from **billboards** (2014: 14.1%; 2016: 16.7%), **posters** (2014: 9.9%; 2016: 14.3%), or **community health workers** (2014: 13.8%; 2016: 13.7%). Further details on exposure to family planning messaging are presented in Table 7.7 by urban/rural residence, education level, current union status, wealth tercile, and experience with modern contraception.

Figure 7.6: Exposure of Women Aged 15–49 Years to Family Planning Messages During the 6 Months Preceding Survey, by Source (Percent)



Source: 2016 Kigoma Reproductive Health Survey.

Wazazi Nipendeni Safe Motherhood Text Message Program

Wazazi Nipendeni is a national Healthy Pregnancy and Safe Motherhood multimedia campaign in Tanzania. The campaign uses mobile phone technology and text messaging to provide maternal and reproductive health information to women. Tables 7.8 and 7.9 describe women's knowledge of and registration with the Wazazi Nipendeni safe motherhood text message program. Most women (83.7%) said they **had not heard** of *Wazazi Nipendeni*; this was a slight increase since 2014 (80.8%). Of the women who had heard of the program, only 6.6% had **registered to receive the text messages**, a slight decrease since 2014 (7.2%). Over half (56.6%) of the women who registered for the program had enrolled themselves. Those who had heard of the *Wazazi Nipendeni* most commonly learned of the program via radio (84.0%), through facility health workers (19.2%), television (18.2%), or friends (15.2%) (Table 7.10). Further details on familiarity with the program, registration for the program, and how women learned about the program are presented in Tables 7.8, 7.9, and 7.10 by urban/rural residence, age group, education level, union status, wealth tercile, and experience with modern contraception. Tables 7.11 and 7.12 provide information on who enrolled them and topics that were covered, respectively.

Tables

Table 7.1: Perceptions of Effectiveness of Contraceptive Methods, by Method and Selected Characteristics (Percent Distribution)
Women Aged 15–49 Years

	Contraceptive Method by Perception of Method Effectiveness (%)																	
	Pill				Injection				Condom				Implants/IUDs					
	Effective	Somewhat Effective	Not Effective	Does not Know	Effective	Somewhat Effective	Not Effective	Does not Know	Effective	Somewhat Effective	Not Effective	Does not Know	Effective	Somewhat Effective	Not Effective	Does not Know	Total	Number of Women
Residence																		
Urban	28.7	14.0	13.3	44.1	38.5	12.0	11.1	38.4	29.7	15.6	11.3	43.4	35.3	8.4	10.2	46.1	100.0	1,427
Rural	20.6	10.5	10.4	58.5	30.6	8.5	8.7	52.2	18.5	9.2	10.2	62.0	23.4	7.2	8.6	60.8	100.0	5,596
Age group																		
15–19	11.7	5.9	6.7	75.8	13.6	5.2	5.6	75.6	12.1	6.1	6.6	75.2	12.6	4.5	5.6	77.3	100.0	1,645
20–24	24.6	12.9	10.2	52.3	34.5	10.4	8.5	46.6	26.1	10.9	10.6	52.3	30.0	8.5	9.0	52.5	100.0	1,288
25–29	26.6	12.3	13.1	47.9	43.0	10.6	9.9	36.6	26.0	12.6	12.1	49.3	33.8	7.8	9.2	49.1	100.0	1,019
30–34	25.3	14.9	12.8	47.1	42.8	11.4	11.3	34.5	24.2	13.5	11.2	51.2	32.3	9.6	9.3	48.8	100.0	960
35–39	26.0	14.7	13.6	45.7	41.1	11.1	12.6	35.2	23.0	12.9	13.3	50.7	30.9	8.4	10.8	49.9	100.0	874
40–44	25.3	11.6	13.9	49.1	33.8	9.7	11.0	45.6	19.4	11.6	11.9	57.1	25.8	7.7	12.1	54.4	100.0	740
45–49	26.6	9.3	11.1	53.0	30.2	8.3	9.7	51.9	17.8	8.9	11.2	62.1	22.7	7.6	10.8	58.8	100.0	497
Education level																		
No education	19.2	10.3	10.7	59.7	30.9	7.8	9.5	51.9	17.8	9.0	10.2	63.0	23.0	6.3	8.8	61.8	100.0	1,711
Some primary	19.6	9.4	10.5	60.5	28.6	8.8	8.0	54.5	17.3	9.2	10.1	63.4	22.4	6.8	8.7	62.1	100.0	1,100
Completed primary	23.6	11.9	11.1	53.3	34.0	9.5	9.4	47.0	21.0	10.9	10.8	57.3	27.3	7.6	8.9	56.2	100.0	3,474
Attended secondary or higher	26.7	12.8	11.7	48.7	32.3	11.4	9.4	46.9	32.3	13.9	9.7	44.1	30.5	10.0	9.7	49.8	100.0	738
Ever use of any modern method																		
No	14.8	8.6	9.7	66.9	17.8	7.2	8.4	66.6	14.5	7.7	9.9	67.9	16.4	6.4	9.0	68.3	100.0	4,610
Yes	36.8	16.4	13.5	33.3	60.4	12.9	10.8	15.9	33.0	16.1	11.5	39.4	44.3	9.4	8.9	37.5	100.0	2,413
Total	**22.3**	**11.2**	**11.0**	**55.5**	**32.2**	**9.2**	**9.2**	**49.4**	**20.8**	**10.5**	**10.4**	**58.2**	**25.8**	**7.4**	**8.9**	**57.8**	**100.0**	**7,023**

Abbreviation: IUD: Intrauterine Device.
Source: 2016 Kigoma Reproductive Health Survey.

Table 7.2: Perceptions of Safety of Contraceptive Methods, by Method and Selected Characteristics (Percent Distribution)

Women Aged 15–49 Years

	Contraceptive Method by Perception of Method Safety (%)																	
	Pill				Injection				Condom				Implants/IUDs					
	Safe	Somewhat Safe	Not Safe	Does not Know	Safe	Somewhat Safe	Not Safe	Does not Know	Safe	Somewhat Safe	Not Safe	Does not Know	Safe	Somewhat Safe	Not Safe	Does not Know	Total	Number of Women
Residence																		
Urban	27.2	15.7	18.8	38.4	32.9	15.1	18.5	33.6	33.1	14.2	13.8	39.0	31.3	10.7	15.6	42.4	100.0	1,427
Rural	18.9	11.0	16.6	53.5	25.7	10.0	15.8	48.5	20.1	9.2	14.0	56.6	20.9	8.3	15.0	55.8	100.0	5,596
Age group																		
15–19	11.6	6.2	10.3	71.9	12.7	6.2	9.7	71.4	14.2	5.9	9.0	71.0	11.9	5.3	9.4	73.4	100.0	1,645
20–24	24.1	12.6	16.3	47.0	29.2	12.4	15.6	42.8	28.6	9.6	14.0	47.9	27.4	9.1	15.2	48.3	100.0	1,288
25–29	23.4	14.9	20.5	41.3	37.1	12.5	17.9	32.5	26.5	13.3	15.5	44.8	29.6	9.9	16.7	43.7	100.0	1,019
30–34	23.6	15.6	18.3	42.5	34.4	14.2	18.4	33.0	27.5	12.3	14.8	45.4	27.9	11.8	14.9	45.4	100.0	960
35–39	22.9	15.4	21.0	40.6	32.5	14.6	21.0	31.9	24.9	14.0	16.0	45.1	25.6	10.7	19.4	44.3	100.0	874
40–44	21.1	13.4	21.3	44.1	29.8	10.7	18.7	40.8	21.0	10.8	17.7	50.6	23.1	9.3	19.1	48.5	100.0	740
45–49	26.2	8.3	19.4	46.1	24.0	9.3	22.1	44.6	19.9	9.4	16.5	54.2	21.7	7.8	18.3	52.1	100.0	497
Education level																		
No education	11.6	6.2	10.3	71.9	12.7	6.2	9.7	71.4	14.2	5.9	9.0	71.0	11.9	5.3	9.4	73.4	100.0	1,645
Some primary	24.1	12.6	16.3	47.0	29.2	12.4	15.6	42.8	28.6	9.6	14.0	47.9	27.4	9.1	15.2	48.3	100.0	1,288
Completed primary	23.4	14.9	20.5	41.3	37.1	12.5	17.9	32.5	26.5	13.3	15.5	44.8	29.6	9.9	16.7	43.7	100.0	1,019
Attended secondary or higher	23.6	15.6	18.3	42.5	34.4	14.2	18.4	33.0	27.5	12.3	14.8	45.4	27.9	11.8	14.9	45.4	100.0	960
Ever use of any modern method																		
No	13.6	8.9	16.0	61.4	15.4	8.1	15.3	61.2	16.3	7.4	14.1	62.2	14.9	7.1	15.2	62.8	100.0	4,610
Yes	34.1	17.7	19.1	29.1	50.0	16.8	18.3	14.9	35.4	15.8	13.6	35.2	38.8	12.0	15.0	34.2	100.0	2,413
Total	**20.6**	**11.9**	**17.0**	**50.5**	**27.2**	**11.1**	**16.3**	**45.5**	**22.8**	**10.2**	**13.9**	**53.1**	**23.0**	**8.8**	**15.1**	**53.1**	**100.0**	**7,023**

Abbreviation: IUD: Intrauterine Device.

Source: 2016 Kigoma Reproductive Health Survey.

Table 7.3: Opinions on Statements Pertaining to Family Planning, by Selected Characteristics (Percent Distribution)
Women Aged 15–49 Years

	Family planning is important for the welfare of a family				The decision to use contraception or not is one that should be made equally by the man and woman				Families should only have children if they can afford to take care of their needs, including food, health care, clothing, and schooling				Use of birth control pills or injections will reduce my ability to get pregnant in the future				Families should have many children because some of them will die					
	Agree	Neither Agree nor Disagree	Disagree	Does not know	Agree	Neither Agree nor Disagree	Disagree	Does not know	Agree	Neither Agree nor Disagree	Disagree	Does not know	Agree	Neither Agree nor Disagree	Disagree	Does not know	Agree	Neither Agree nor Disagree	Disagree	Does not know	Total	Number of Women
Residence																						
Urban	89.5	1.1	3.5	6.0	83.6	2.9	6.8	6.8	89.6	2.3	4.1	4.0	52.1	5.0	22.2	20.7	31.3	4.7	59.7	4.3	100.0	1,427
Rural	83.5	1.8	5.2	9.5	84.1	1.9	6.1	7.8	88.1	2.1	4.7	5.1	47.7	5.1	17.3	29.8	41.7	3.8	47.7	6.8	100.0	5,596
Age group																						
15–19	74.1	1.4	5.4	19.1	71.0	2.3	7.2	19.6	83.1	2.1	3.7	11.1	36.9	4.3	12.0	46.8	37.6	3.6	45.9	12.9	100.0	1,645
20–24	88.1	1.4	4.1	6.4	88.2	1.8	6.1	3.9	91.4	1.2	4.6	2.8	53.5	3.5	16.9	26.1	39.4	3.6	52.5	4.4	100.0	1,288
25–29	89.9	1.2	4.2	4.7	89.1	1.5	6.1	3.2	90.5	1.5	4.9	3.1	51.9	5.7	23.4	19.0	38.2	3.4	54.5	3.9	100.0	1,019
30–34	90.1	1.9	4.1	3.9	87.6	2.5	6.9	3.0	91.6	2.1	4.2	2.2	52.4	5.5	23.4	18.7	41.1	3.5	51.5	4.0	100.0	960
35–39	87.1	1.9	5.9	5.1	89.4	2.0	5.0	3.6	90.5	3.0	4.2	2.3	54.4	6.6	19.7	19.3	42.4	3.3	50.3	4.0	100.0	874
40–44	87.5	1.9	5.0	5.6	87.7	2.5	5.0	4.8	87.3	3.0	6.7	3.1	50.9	6.2	19.3	23.7	40.4	5.4	50.1	4.1	100.0	740
45–49	83.0	3.2	5.2	8.6	85.9	2.7	6.5	4.9	86.6	3.7	5.1	4.6	49.0	5.8	19.3	26.0	41.5	6.9	46.2	5.5	100.0	497
Current union status																						
Currently in union	88.0	1.7	4.4	5.9	89.4	1.9	5.1	3.6	90.1	2.2	4.7	3.0	52.0	5.5	19.7	22.8	41.1	3.9	50.9	4.1	100.0	4,476
Not currently in union	79.1	1.5	5.5	13.9	74.8	2.6	8.2	14.5	85.4	2.1	4.3	8.1	42.8	4.4	15.8	36.9	37.1	4.0	48.7	10.1	100.0	2,547
Education level																						
No education	80.1	2.0	6.2	11.7	81.7	2.4	7.0	8.9	85.4	2.9	4.7	7.0	48.8	5.6	17.1	28.5	44.7	4.5	42.7	8.1	100.0	1,711
Some primary	76.8	2.2	6.5	14.5	78.6	2.8	6.2	12.4	84.2	2.2	6.0	7.6	42.9	5.0	17.3	34.7	42.6	2.6	46.3	8.5	100.0	1,100
Completed primary	87.7	1.4	4.3	6.5	86.1	1.9	6.2	5.7	90.5	2.0	4.2	3.4	49.9	5.0	19.3	25.8	40.0	4.2	50.6	5.3	100.0	3,474
Attended secondary or higher	92.9	1.1	1.4	4.6	87.7	1.3	4.9	6.1	91.9	1.3	4.1	2.7	50.8	4.7	17.7	26.8	21.7	3.7	70.9	3.8	100.0	738
Ever use of any modern method																						
No	78.8	2.2	6.4	12.6	80.6	2.3	6.1	11.1	86.0	2.4	4.7	6.8	44.7	4.8	14.2	36.3	41.0	4.2	46.5	8.3	100.0	4,610
Yes	96.2	0.7	1.8	1.4	90.7	1.9	6.5	0.9	93.1	1.6	4.3	1.0	56.3	5.6	26.3	11.8	36.9	3.5	57.1	2.4	100.0	2,413
Total	**84.7**	**1.7**	**4.8**	**8.8**	**84.0**	**2.1**	**6.2**	**7.6**	**88.4**	**2.2**	**4.6**	**4.9**	**48.6**	**5.1**	**18.3**	**28.0**	**39.6**	**4.0**	**50.1**	**6.3**	**100.0**	**7,023**

Source: 2016 Kigoma Reproductive Health Survey.

Table 7.4: Acceptable Sources or Venues for Provision of Family Planning Information, by Source/Venue and Selected Characteristics (Percent)

Women Aged 15–49 Years

	Source/Venue of Information (%)							
	Radio	Television	Newspaper or Magazine	School	Religious settings	Mobile phone[a]	All Are Acceptable	Number of Women
Residence								
Urban	75.0	60.4	46.2	45.0	46.9	46.9	30.3	1,427
Rural	70.2	43.0	40.4	41.4	49.8	42.6	29.8	5,596
Education level								
No education	65.0	38.6	29.7	31.7	42.9	36.3	23.7	1,711
Some primary	66.8	42.9	37.6	39.5	44.8	39.1	25.3	1,100
Completed primary	72.8	46.4	44.2	43.1	51.2	44.5	31.2	3,474
Attended secondary or higher	85.0	71.2	62.9	65.4	61.3	62.3	45.5	738
Current union status e								
Currently in union	71.8	44.7	39.4	38.0	49.0	42.7	28.9	4,476
Not currently in union	70.2	49.8	45.3	49.2	49.6	44.8	31.7	2,547
Ever use of any modern method								
No	68.1	44.3	40.5	41.8	47.6	40.8	28.9	4,610
Yes	77.3	50.9	43.8	42.7	52.4	48.7	31.9	2,413
Total	**71.2**	**46.6**	**41.6**	**42.1**	**49.2**	**43.5**	**29.9**	**7,023**

Source: 2016 Kigoma Reproductive Health Survey.

[a] Mobile phone was added added as response to the 2016 RHS questionnaire

Table 7.5: Preferred Medium for Sex Education Topics, by Source and Selected Characteristics (Percent Distribution)
Young women Aged 15–24 Years

	Preferred Medium of Information (%)											
	Parent/ Guardian	Other relative	Teachers	Peers/ Friends	Radio program	Other Radio Ads/TV Program	Religious	Health Worker	Other [a]	Does not know	Total	Number of Women
Residence												
Urban	7.6	3.9	2.0	7.7	4.2	0.6	0.0	68.4	2.6	3.0	100.0	334
Rural	12.0	5.4	1.8	6.8	2.5	0.2	0.7	65.2	0.4	5.1	100.0	1,317
Age Group												
15–19	13.6	6.4	2.2	8.4	3.1	0.2	0.4	59.5	0.7	5.6	100.0	524
20–24	9.9	4.5	1.7	6.3	2.7	0.3	0.6	68.9	0.9	4.2	100.0	1,127
Education Level												
No education	16.1	8.9	0.8	5.8	2.0	0.0	1.3	58.2	0.0	6.9	100.0	290
Some primary	15.0	6.6	1.4	6.8	3.2	0.3	1.3	59.0	0.9	5.6	100.0	306
Completed primary	9.0	3.9	1.4	6.7	2.2	0.1	0.1	71.8	0.4	4.4	100.0	829
Attended secondary or higher	7.2	2.6	5.6	9.5	6.0	0.9	0.0	63.1	3.8	1.4	100.0	226
Wealth Tercile												
Low	12.2	6.1	1.0	7.6	2.3	0.0	0.6	64.8	0.3	5.1	100.0	575
Middle	13.4	5.5	2.8	6.9	2.6	0.0	0.5	62.3	0.6	5.3	100.0	472
High	8.2	3.9	1.9	6.3	3.6	0.7	0.5	69.6	1.6	3.7	100.0	604
Ever Use of Any Modern Method												
No	12.9	6.0	1.8	7.0	2.8	0.3	0.7	62.9	1.0	4.8	100.0	1,157
Yes	7.0	3.2	2.0	6.8	3.1	0.2	0.2	72.6	0.6	4.2	100.0	494
Total	**11.1**	**5.1**	**1.8**	**6.9**	**2.9**	**0.3**	**0.5**	**65.8**	**0.9**	**4.6**	**100.0**	**1,651**

Source: 2016 Kigoma Reproductive Health Survey.
[a] "Other" includes Printed Materials (Books, Brochures, Posters), Wazazi Nipendeni (Mobile Phone Program), Internet, Other.

Table 7.6: Preferred Person to Provide Information on Family Planning, by Person and Selected Characteristics (Percent Distribution)
Women Aged 15–49 Years

	Preferred Persons for Family Planning Information (%)												
	Parent/ Guardian	Other relative	Teachers	Peers/ Friends	Health Worker	Religious Leader	Pharmacist	Radio/TV Programs	Other [a]	She Does Not Like Family Planning	Does not know	Total	Number of Women
Residence													
Urban	7.4	2.7	3.0	3.1	80.2	0.5	0.1	0.7	0.8	0.6	1.1	100.0	1,427
Rural	6.1	4.0	2.0	4.5	76.9	0.6	0.1	0.7	0.3	0.7	4.0	100.0	5,596
Age Group													
15–19	20.8	4.9	7.8	7.0	52.2	0.2	0.0	1.0	0.5	0.1	5.6	100.0	1,645
20–24	4.3	3.8	1.0	3.8	83.5	0.1	0.1	0.8	0.4	0.1	2.1	100.0	1,288
25–29	1.6	4.0	0.4	3.6	86.4	0.6	0.1	0.3	0.2	0.5	2.4	100.0	1,019
30–34	1.0	2.2	0.2	2.3	90.4	0.5	0.0	0.4	0.5	0.7	1.7	100.0	960
35–39	0.8	2.3	0.1	3.5	89.5	0.7	0.2	0.4	0.0	0.9	1.7	100.0	874
40–44	0.5	3.5	0.3	3.4	82.6	1.5	0.0	0.9	0.8	2.3	4.3	100.0	740
45–49	0.5	5.4	0.2	3.4	79.3	1.4	0.0	0.8	0.8	1.8	6.4	100.0	497
Education Level													
No education	4.0	5.7	0.3	4.5	76.4	0.9	0.1	0.8	0.3	0.9	6.2	100.0	1,711
Some primary	10.4	4.0	3.5	4.8	69.8	0.6	0.0	0.6	0.6	0.8	4.8	100.0	1,100
Completed primary	5.5	3.2	1.7	4.0	81.2	0.5	0.1	0.6	0.4	0.7	2.2	100.0	3,474
Attended secondary or higher	9.7	1.6	7.2	4.3	75.2	0.0	0.1	1.0	0.4	0.0	0.5	100.0	738
Wealth Tercile													
Low	6.0	5.4	1.3	4.6	75.5	0.8	0.1	0.6	0.3	0.8	4.7	100.0	2,179
Middle	6.6	3.3	2.4	4.8	77.2	0.5	0.0	0.5	0.4	0.6	3.8	100.0	2,255
High	6.5	2.8	2.8	3.5	79.8	0.4	0.1	1.0	0.6	0.7	1.9	100.0	2,589
Ever Use of Any Modern Method													
No	9.1	4.6	3.2	5.2	70.7	0.8	0.0	0.8	0.5	0.7	4.4	100.0	9.1
Yes	1.1	2.2	0.2	2.3	91.0	0.2	0.1	0.5	0.4	0.5	1.4	100.0	1.1
Total	**6.4**	**3.8**	**2.2**	**4.3**	**77.6**	**0.6**	**0.1**	**0.7**	**0.4**	**0.7**	**3.4**	**100.0**	**7,023**

Source: 2016 Kigoma Reproductive Health Survey.
[a] "Other" includes Printed Materials (Books, Brochures, Posters), Wazazi Nipendeni (Mobile Phone Program), Internet, Other.

Table 7.7: Exposure to Family Planning Messages from Various Sources During the 6 Months Preceding Survey, by Source and Selected Characteristics (Percent)
Women Aged 15–49 Years

	Source of Family Planning Messages in Last 6 Months (%)										
	Radio	TV	Newspaper/ Magazine	Poster	Billboard	Community Events	Live Drama	Doctor/ Nurse	Community Health Worker	Mobile Phone[a]	Number of Women
Residence											
Urban	50.5	27.5	11.7	19.7	21.5	10.8	8.9	47.0	14.4	5.4	1,427
Rural	37.6	3.7	4.4	13.0	15.5	9.2	2.8	46.1	13.5	1.3	5,596
Education Level											
No education	32.9	2.9	1.7	8.3	10.3	7.0	2.3	47.6	12.8	0.7	1,711
Some primary	34.4	4.4	3.6	9.4	10.2	6.0	2.8	39.8	11.6	0.7	1,100
Completed primary	42.1	7.7	5.8	15.7	19.2	10.9	3.9	48.8	14.6	2.2	3,474
Attended secondary or higher	57.1	32.4	19.3	29.7	30.2	14.3	10.8	40.5	14.7	7.7	738
Current union status											
Currently in union	43.4	7.7	5.4	15.8	18.4	10.0	3.8	58.5	16.5	2.3	4,476
Not currently in union	34.8	10.1	6.7	11.9	13.9	8.7	4.4	25.1	8.8	2.0	2,547
Wealth tercile											
Low	28.2	1.8	3.0	9.5	11.4	7.6	2.1	45.5	12.6	0.7	2,179
Middle	39.0	2.7	4.3	13.7	16.4	8.9	2.5	46.0	13.4	1.1	2,255
High	51.7	19.6	9.7	19.1	21.6	11.6	7.1	47.1	14.8	4.4	2,589
Any modern method											
No	36.5	7.1	5.1	12.4	14.4	7.8	3.6	37.8	11.7	1.6	4,610
Yes	47.5	11.4	7.3	18.2	21.3	12.9	5.0	62.6	17.5	3.3	2,413
Total	**40.2**	**8.6**	**5.8**	**14.3**	**16.7**	**9.5**	**4.1**	**46.2**	**13.7**	**2.2**	**7,023**

Source: 2016 Kigoma Reproductive Health Survey.
[a] Mobile phone was added added as response to the 2016 RHS questionnaire

Table 7.8: Familiarity with Wazazi Nipendeni Safe Motherhood Text Message Program, by Selected Characteristics (Percent Distribution)
Women aged 15–49 Years

	Heard of Program (%)				
	Yes	No	Not Sure	Total	Number of Women
Residence					
Urban	24.5	72.6	3.0	100.0	1,427
Rural	11.9	86.5	1.6	100.0	5,596
Age group					
15–19	13.6	84.8	1.6	100.0	1,645
20–24	18.2	80.6	1.2	100.0	1,288
25–29	16.6	81.2	2.2	100.0	1,019
30–34	15.3	82.7	2.0	100.0	960
35–39	12.3	84.7	3.0	100.0	874
40–44	9.8	88.5	1.8	100.0	740
45–49	12.3	85.9	1.7	100.0	497
Education level					
No education	8.7	88.4	2.9	100.0	1,711
Some primary	13.0	85.7	1.2	100.0	1,100
Completed primary	14.2	84.1	1.7	100.0	3,474
Attended secondary or higher	31.5	67.3	1.2	100.0	738
Wealth tercile					
Low	7.9	89.8	2.3	100.0	2,179
Middle	11.6	87.3	1.1	100.0	2,255
High	22.6	75.2	2.1	100.0	2,589
Any modern method					
No	12.8	85.2	2.0	100.0	4,610
Yes	17.8	80.6	1.6	100.0	2,413
Total	**14.5**	**83.7**	**1.9**	**100.0**	**7,023**

Source: 2016 Kigoma Reproductive Health Survey.

Table 7.9: Registration with Wazazi Nipendeni Safe Motherhood Text Message Program, by Selected Characteristics (Percent Distribution)
Women Aged 15–49 Who Are Familiar with the Program

Characteristic	Registered (%)		Total	Number of Women
	Yes	No		
Residence				
Urban	10.3	89.7	100.0	359
Rural	4.6	95.4	100.0	661
Age group				
15–19	3.2	96.8	100.0	227
20–24	9.0	91.0	100.0	236
25–29	9.8	90.2	100.0	170
30–34	8.6	91.4	100.0	147
35–39	2.7	97.3	100.0	106
40–44	6.2	93.8	100.0	72
45–49	3.2	96.8	100.0	62
Education level				
No education	2.0	98.0	100.0	148
Some primary	5.3	94.7	100.0	143
Completed primary	5.0	95.0	100.0	493
Attended secondary or higher	13.7	86.3	100.0	236
Any modern method				
No	4.4	95.6	100.0	590
Yes	9.6	90.4	100.0	430
Total	**6.6**	**93.4**	**100.0**	**1,020**

Source: 2016 Kigoma Reproductive Health Survey.

Table 7.10: Of Women Who Heard of Wazazi Nipendeni Service, How Did They Learn About This Service, by Selected Characteristics

Women Aged 15–49 Years

	How they Learned of Service (%)											
	Radio	Television	Newspaper/Magazine	Poster	Billboards	Facility Health Worker	Community Health Volunteer	Friend	Family Friend	Other	Mobile	Number of Women
Residence												
Urban	78.2	38.1	10.8	16.5	13.4	24.8	6.1	17.9	10.4	0.5	0.5	359
Rural	87.1	7.8	5.1	7.5	4.1	16.2	5.1	13.8	8.3	1.1	1.1	661
Education level												
No education	82.6	5.0	4.8	6.0	4.9	19.4	7.6	11.6	8.3	0.0	0.0	148
Some primary	84.5	7.8	5.3	3.4	0.7	18.1	1.4	14.5	8.5	1.5	1.5	143
Completed primary	85.0	16.3	5.6	12.5	8.6	19.2	5.5	14.7	8.9	0.8	0.8	493
Attended secondary or higher	82.6	37.3	12.7	13.8	10.2	19.6	6.7	19.0	10.1	1.3	1.3	236
Current union status												
Currently in union	83.6	17.0	6.5	11.2	7.9	23.4	6.1	15.6	9.2	0.6	0.6	621
Not currently in union	84.7	20.0	8.0	9.6	6.3	12.5	4.5	14.7	8.8	1.3	1.3	399
Wealth tercile												
Low	83.0	6.5	4.0	5.9	2.8	19.9	6.3	13.6	9.1	1.3	1.3	170
Middle	85.3	4.5	6.0	8.2	4.0	16.5	3.8	15.9	8.6	0.4	0.4	263
High	83.8	28.0	8.5	13.1	10.1	20.1	6.0	15.4	9.2	1.0	1.0	587
Any modern method												
No	85.1	15.9	6.4	8.9	5.8	14.5	5.0	12.8	7.9	1.4	1.4	590
Yes	82.5	21.4	7.9	12.9	9.3	25.7	6.1	18.6	10.7	0.2	0.2	430
Total	**84.0**	**18.2**	**7.1**	**10.6**	**7.3**	**19.2**	**5.5**	**15.2**	**9.0**	**0.9**	**0.9**	**1,020**

Source: 2016 Kigoma Reproductive Health Survey.

Table 7.11: For Women Who Were Ever Enrolled in the Wazazi Nipendeni Service, Who Enrolled Them
Women Aged 15–49 Years

	Who Enrolled (%)						
	Facility Health Worker	Community Health Volunteer	Family Member	Friend/ Neighbor	Self	Other	Number of Women
Total	19.6	4.2	9.1	12.5	56.6	4.2	69

Source: 2016 Kigoma Reproductive Health Survey.

Table 7.12: For Women Who Were Ever Enrolled in the Wazazi Nipendeni Service, Which Messages Did They Receive
Women Aged 15–49 Years

	Which Messages Did They Receive (%)										
	Antenatal Care	Test for HIV	Malaria Prevention Treatment	Sleep with Mosquito Net	Danger Signs in Pregnancy	Nutrition During Pregnancy	Deliver in Facility	Breastfeed Within 1 Hour	Exclusively Breastfeed for 6 Months	HIV Test for Baby	Number of Women
Total	70.9	78.9	79.0	88.1	71.0	77.9	87.1	75.3	75.2	73.3	69

Source: 2016 Kigoma Reproductive Health Survey.

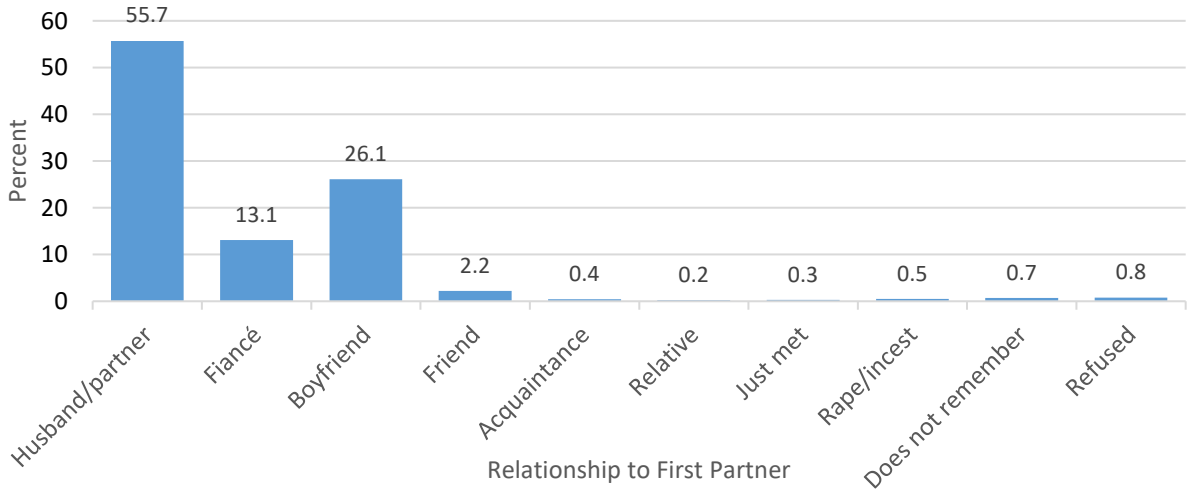
Chapter 8: Early Sexual Activity

Young adult women (ages 15–24) make up a sizeable proportion (19%) of the total female population and 10% of the total population of Kigoma Region[i3]. In fact, young adult women comprise 42.5% of women of reproductive age in Kigoma Region, and the subgroup of young women aged 15–19 make up the largest five-year age group (24.2%) interviewed in the 2016 survey (Chapter 2, Table 2.2). Therefore, it is very important to understand their early sexual activity in order to plan effective reproductive health and sex education programs. As Chapter 3 demonstrates, early initiation of sexual activity, entry into marriage, and childbearing are common in Kigoma. To understand this situation better, this chapter examines the characteristics of young women's first sexual intercourse: relationship to the partner, desire to have sex, contraceptive use, and reasons for not using contraception.

Findings

For the majority of young women aged 15–24 (55.7%), their **first sexual partner** was reported to be their husband or live-in partner (Table 8.1, Figure 8.1). Just over one-quarter of young women (26.1%) reported that their first partner was their boyfriend, which is similar to the level in 2014 (26.6%). The next most common first partner reported was a fiancé (13.1%, similar to 2014: 12.6%). For urban areas in 2016, almost half of women said their first sexual partner was their boyfriend; this was over twice the rural percentage (urban 49.4% vs. rural 20.3%). Conversely, the proportion of rural women who said their first sexual partner was their husband/partner was twice that of urban women (62.1% vs. 30.1%, data not shown). Further details by age at first sex, education level, and wealth tercile are presented in Table 8.1.

Figure 8.1: Relationship to First Sexual Partner Among Women Aged 15–49 Years Who Ever Had Sexual Intercourse (Percent Distribution)

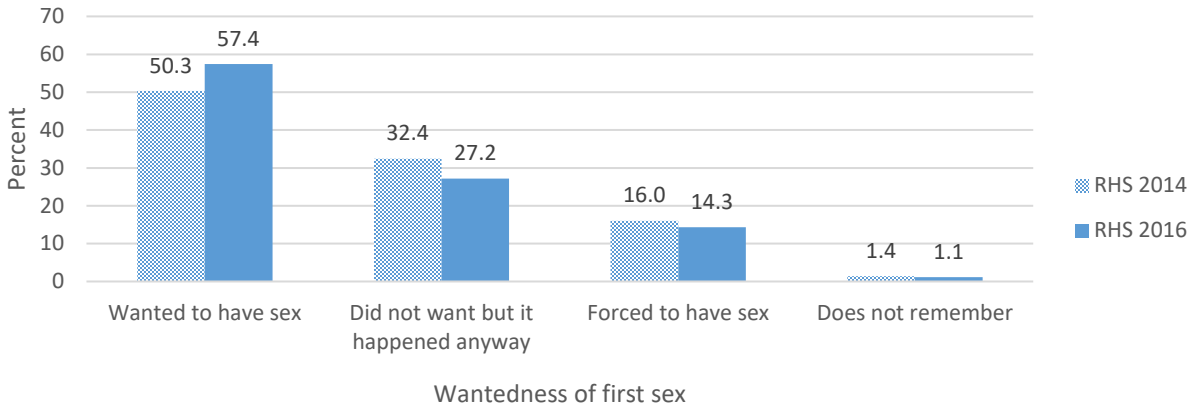


Source: 2016 Kigoma Reproductive Health Survey.

[i] National Bureau of Statistics, Office of Chief Government Statistician. Population Distribution by Age and Sex. Dar es Salaam and Zanzibar, Tanzania: NBS, Office of Chief Government Statistician; 2013.

Among women who were not in union (either formal or informal) at the time of their first sexual intercourse, more than half (57.4%) reported that they wanted to have sex at that time; however, about one-quarter (27.2%) did not want sex at that time but reported that it happened anyway (Table 8.2, Figure 8.2). For approximately one-sixth of young women who were not in union (14.3%), the first sexual encounter was forced. Compared with 2014, the overall situation of **wantedness of first sex** has improved; a greater proportion of the young women wanted to have sex at that time (up from 50.3% in 2014) and there were decreases in the proportions that did not want it but it happened anyway (2014: 32.4%) or were forced to (2014: 16.0%).

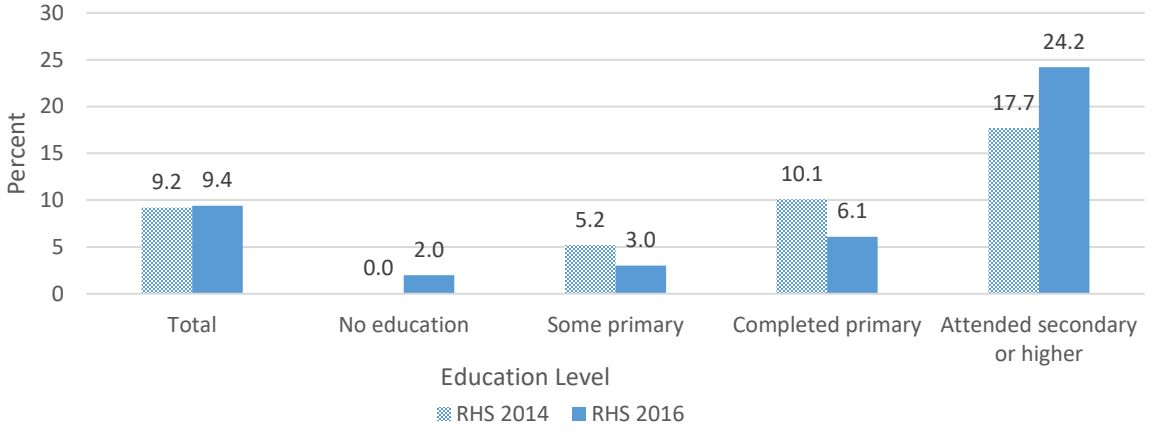
Figure 8.2: Wantedness of Sex at the Time of First Sexual Intercourse Among Women Aged 15–24 Years Who Have Ever Had Sexual Intercourse and Were Not in Union at that Time (Percent Distribution)



Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Different patterns emerge among narrower age groups. For those aged 15–17 and those aged 18–19, the situation largely improved; for both these groups, the proportions that did not want sex at the time of first intercourse decreased from 2014 to 2016 (Figure 8.3). The proportion of 15 to 17-year-olds who were forced to have sex decreased, but it increased slightly for those aged 18-19. Further details by urban/rural residence, age at first sex, education level, and wealth tercile are presented in Table 8.1 (Table 8.2).

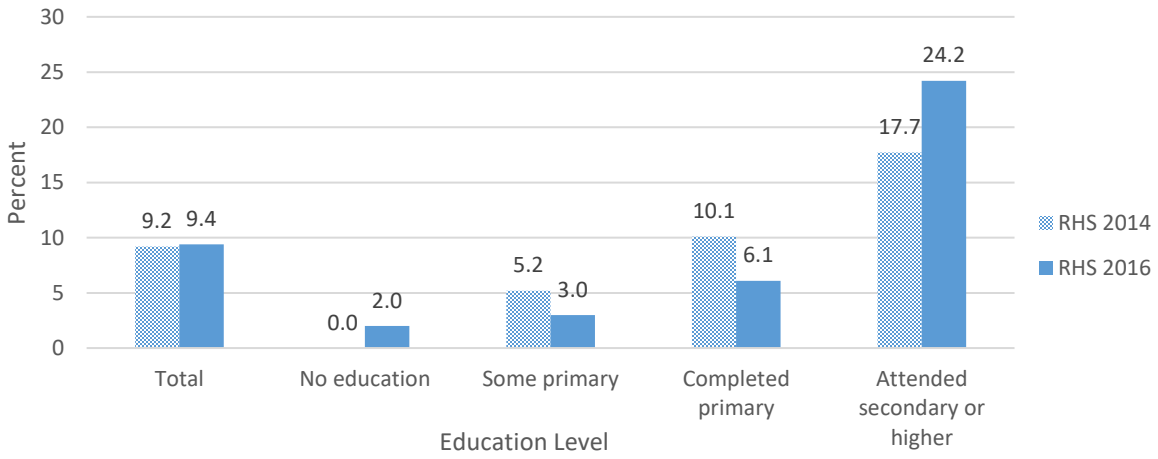
Figure 8.3: Women Who Did Not Want Sex at Time of First Intercourse But it Happened Anyway, Among Women 15–24 Years Who Were Not In Union at First Sex, by Age Group and Survey Year



Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

Among women aged 15–24 who were not in union at the time of first sex, the overwhelming majority (89.3%) did not **use contraception the first time they had sex**, despite the fact that very few of them wanted to become pregnant at that time (Table 8.3). This is the same proportion as in 2014 (89.5%). Only 9.4% used any contraceptive method. Contraceptive use rates increased with age, education, and wealth. Thus, the young women who were most likely to have used contraception at first intercourse lived in urban areas (19.9% used contraception), were aged 20–24 (23.1%), were in the highest wealth category (15.8%), or had attended secondary school or higher (24.2%) (Figure 8.4). Among women who were in union at the time of first intercourse, virtually none of them (less than 1%) used contraception at that time (data not shown).

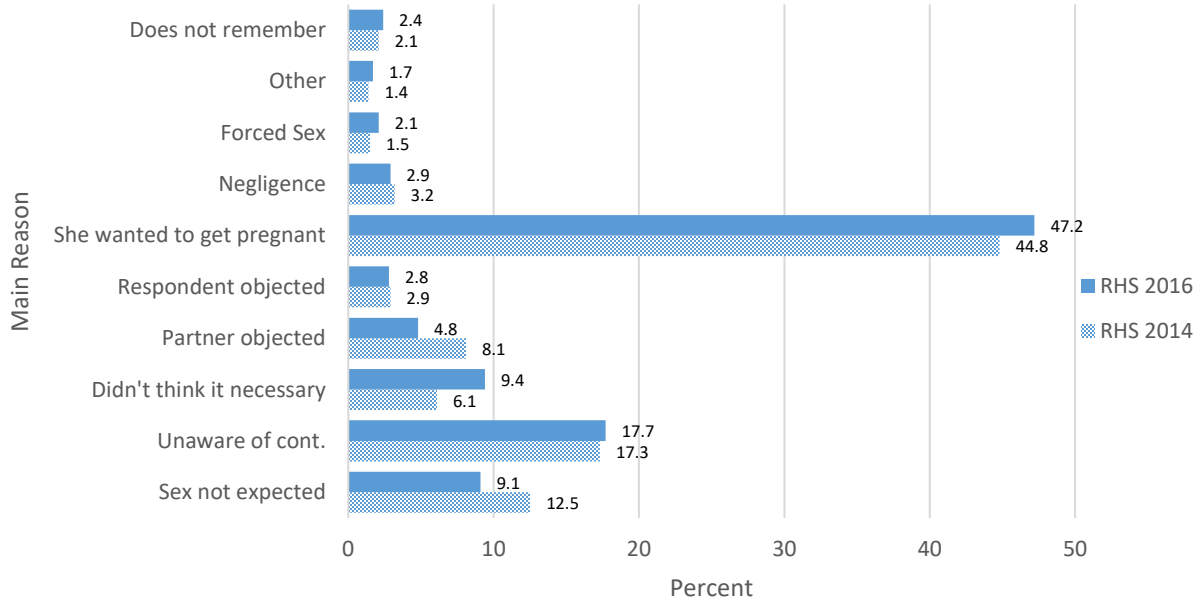
Figure 8.4: Women Who Used Contraceptive at First Sex Among Women 15–24 Years, by Education Level



Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

All women aged 15–24 years (both in union and not) who had reported not using contraception at first sexual intercourse were asked the main **reason why they did not use contraceptio**n at that time. Almost half of all women who had not used contraception (47.2%) reported this was because they wanted to become pregnant; this was a slight increase from 44.8% in 2014 (Table 8.4, Figure 8.5). Nearly one-fifth of these young non-users (17.7%) said they did not know about contraception (unchanged from 17.3% in 2014). Nearly one-tenth said they did not think contraception was necessary (9.4%, which increased from 6.1% in 2014) or because sex was not expected (9.1%, down from 12.5% in 2014).

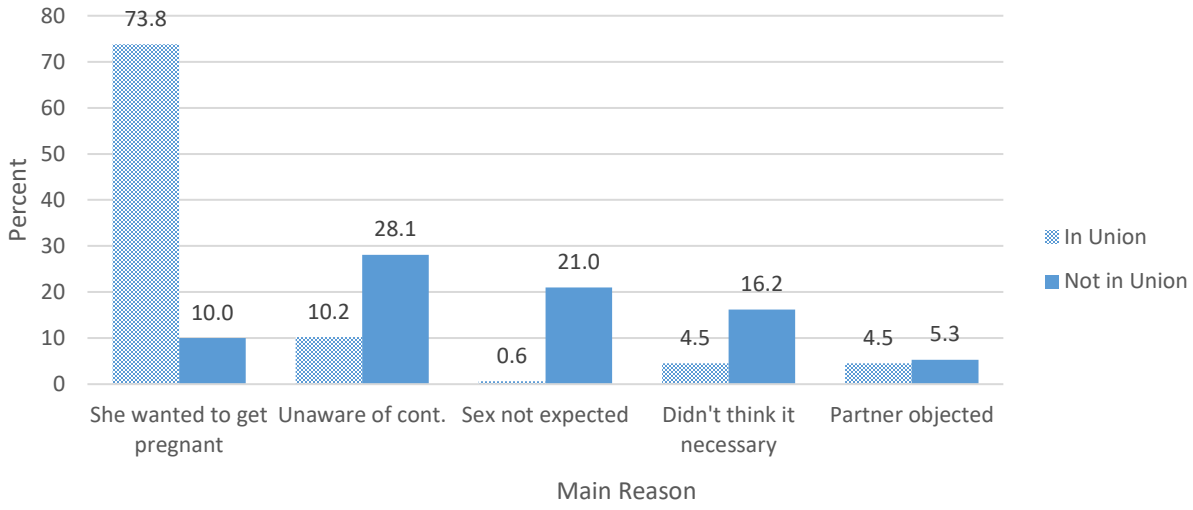
Figure 8.5: Main Reason for Not Using Contraception at First Sexual Intercourse, Among Women Aged 15–24 Years Who Ever Had Sexual Intercourse and Did Not Use Contraception at First Sex (Percent Distribution)



Source: 2016 Kigoma Reproductive Health Survey, 2014 Kigoma Reproductive Health Survey.

The reasons for not using contraception at first intercourse were quite different for women in union as opposed to women not in union (Figure 8.6). The main reason that women in union gave for not using contraception was that they wanted to become pregnant (reported by 73.8% of women in union), whereas only 10% of women who were not in union gave this reason. Women who were not in union were more likely to say their non-use was because they did not know about contraception (not in union: 28.1%, in union: 10.2%), or to say they did not think contraception was necessary (16.2%, vs. 4.5% of women in union). One-fifth of women not in union said they did not use contraception because sex was not expected (21.0%), which was not a significant reason for those in union (0.6%). Further details are presented in Table 8.4 by urban/rural residence, age at first sex, education level, and wealth tercile.

Figure 8.6: Main Reasons for Not Using Contraception at First Sexual Intercourse, Among Women Aged 15–24 Years Who Ever Had Sexual Intercourse and Did Not Use Contraception at First Sex, by Union Status



Source: 2016 Kigoma Reproductive Health Survey.

Implications for Programs

Young women's lack of knowledge about contraception and the need to use it every time puts them at considerable risk for an unintended pregnancy. This suggests that more **education on pregnancy risk and contraception** is needed, and it would be beneficial for young women to receive this education before age 15. Community-based educational strategies may be most effective in reaching young women, and could also address the importance of and right to consensual sex in order to reduce the fairly high incidence of pressured or forced sex that young women experience. Providing them with training in negotiation skills may also help.

Tables

Table 8.1: Relationship to First Sexual Partner, by Selected Characteristics (Percent Distribution)
Women Aged 15–24 Years Who Ever Had Sexual Intercourse

	Relationship to Partner for First Sexual Intercourse (%)											
	Husband/ Live-in Partner	Fiancé	Boyfriend	Friend	Acquaintance	Relative	Just Met	Rape/ Incest	Does Not Remember	Refused	Total	Number of Women
Residence												
Urban	30.1	13.7	49.4	3.0	0.6	0.0	0.0	0.7	1.5	1.2	100.0	336
Rural	62.1	12.9	20.3	2.0	0.4	0.3	0.4	0.4	0.5	0.7	100.0	1,323
Age at first sex												
<15	29.5	11.1	43.9	7.0	3.2	1.3	1.4	2.0	0.6	0.0	100.0	146
15–17	55.8	13.3	26.0	2.1	0.3	0.1	0.3	0.5	0.8	0.8	100.0	851
18–19	64.3	12.8	21.1	0.8	0.0	0.0	0.0	0.2	0.4	0.4	100.0	484
20+	58.4	12.9	27.4	1.2	0.0	0.0	0.0	0.0	0.0	0.0	100.0	157
Don't know/refused	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	100.0	21
Education level												
No education	68.4	11.4	16.8	0.7	0.3	0.4	0.0	0.0	1.3	0.7	100.0	290
Some primary	57.1	10.3	26.1	2.3	0.6	0.6	0.3	0.9	0.6	1.2	100.0	309
Completed primary	60.6	12.9	22.1	2.1	0.4	0.1	0.5	0.4	0.4	0.5	100.0	832
Attended secondary or higher	18.9	20.0	52.9	4.2	0.4	0.0	0.0	0.9	1.3	1.4	100.0	228
Wealth tercile												
Low	66.0	11.3	17.8	1.7	0.3	0.3	0.3	0.5	1.0	0.7	100.0	578
Middle	59.2	12.9	23.3	2.1	0.4	0.4	0.0	0.5	0.4	0.8	100.0	475
High	43.0	15.0	36.3	2.8	0.6	0.0	0.5	0.4	0.7	0.8	100.0	606
Total	**55.7**	**13.1**	**26.1**	**2.2**	**0.4**	**0.2**	**0.3**	**0.5**	**0.7**	**0.8**	**100.0**	**1,659**

Source: 2016 Kigoma Reproductive Health Survey.
[a] Fewer than 25 cases.

Table 8.2: Wantedness of Sex at First Sexual Intercourse, by Selected Characteristics (Percent Distribution)

Women Aged 15–24 who Ever Had Sexual Intercourse and Were Not in Union at First Sex [a]

	Wantedness of First Sex (%)					
	Wanted to Have Sex	Did Not Want but It Happened Anyway	Forced to Have Sex	Does Not Remember	Total	Number of Women
Residence						
Urban	54.9	28.6	15.2	1.3	100.0	235
Rural	58.5	26.6	13.9	1.0	100.0	499
Age at first sex						
<15	55.9	29.2	14.9	0.0	100.0	100
15–17	56.2	27.1	15.8	0.8	100.0	375
18–19	59.7	27.1	13.2	0.0	100.0	176
20+	63.4	25.2	11.3	0.0	100.0	67
Don't know/refused	[b]	[b]	[b]	[b]	100.0	16
Education level						
No education	50.9	31.8	16.1	1.2	100.0	90
Some primary	61.8	22.1	13.9	2.2	100.0	132
Completed primary	57.0	26.7	15.7	0.6	100.0	328
Attended secondary or higher	58.3	29.4	11.2	1.2	100.0	184
Wealth tercile						
Low	57.7	26.2	14.0	2.2	100.0	194
Middle	58.3	28.9	11.8	1.0	100.0	191
High	56.7	26.8	15.9	0.6	100.0	349
Total	**57.4**	**27.2**	**14.3**	**1.1**	**100.0**	**734**

Source: 2016 Kigoma Reproductive Health Survey.

[a] Eight cases of rape/incest removed from analysis.

[b] Fewer than 25 cases.

Table 8.3: Use of Contraception by Respondent or Partner at First Sexual Intercourse, by Selected Characteristics (Percent Distribution)
Women Aged 15–24 Who Ever Had Sexual Intercourse and Were Not in Union at First Sex [a]

	Used Contraception at First Sexual Intercourse (%)					
	Yes	No	Does Not Remember	Refused	Total	Number of Women
Residence						
Urban	19.9	78.8	0.0	1.3	100.0	235
Rural	4.6	94.1	0.5	0.8	100.0	499
Age at first sex						
<15	6.9	92.2	0.9	0.0	100.0	100
15–17	6.7	92.1	0.4	0.8	100.0	375
18–19	12.1	87.9	0.0	0.0	100.0	176
20+	23.1	76.9	0.0	0.0	100.0	67
Don't know/refused	[b]	[b]	[b]	[b]	100.0	16
Education level						
No education	2.0	97.0	1.0	0.0	100.0	90
Some primary	3.0	93.6	0.6	2.9	100.0	132
Completed primary	6.1	93.0	0.3	0.6	100.0	328
Attended secondary or higher	24.2	75.2	0.0	0.6	100.0	184
Wealth tercile						
Low	2.0	95.9	0.5	1.6	100.0	194
Middle	5.7	93.3	0.0	1.0	100.0	191
High	15.8	83.1	0.5	0.6	100.0	349
Total	**9.4**	**89.3**	**0.4**	**1.0**	**100.0**	**734**

Source: 2016 Kigoma Reproductive Health Survey.
[a] Eight cases of rape/incest removed from analysis.
[b] Fewer than 25 cases.

Table 8.4: Main Reason for Not Using Contraception At First Sexual Intercourse, by Selected Characteristics (Percent Distribution)
Women Aged 15–24 Who Ever Had Sexual Intercourse and Did Not Use Contraception at First Sex [a]

	Main Reason for Not Using Contraception During First Sexual Intercourse (%)											
	Sex Was Not Expected	Did Not Know About Contraception	Did Not Think It Was Necessary	Partner Objected	Respondent Objected	She Wanted to Become Pregnant	Negligence	Forced Sex	Other [b]	Does Not Know/ Remember	Total	Number of Women
Residence												
Urban	17.9	18.7	11.5	4.2	3.1	28.1	6.3	3.0	4.1	3.2	100.0	287
Rural	7.2	17.5	8.9	5.0	2.7	51.4	2.1	1.9	1.2	2.2	100.0	1,291
Age at first sex												
<15	11.7	29.0	17.2	4.3	2.2	23.8	3.5	2.6	3.3	2.5	100.0	136
15–17	10.3	18.9	9.5	5.0	2.8	44.0	3.4	2.6	1.3	2.3	100.0	820
18–19	6.4	14.5	7.2	5.2	2.3	57.7	2.4	1.5	1.1	1.7	100.0	461
20+	8.1	9.1	8.0	4.0	4.6	58.1	1.3	1.5	3.4	1.9	100.0	141
Don't know/refused	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	100.0	20
In union at that time												
No	21.0	28.1	16.2	5.3	3.7	10.0	5.6	3.9	2.4	3.7	100.0	664
Yes	0.6	10.2	4.5	4.5	2.1	73.8	0.9	0.9	1.2	1.4	100.0	914
Education level												
No education	8.2	18.4	8.2	3.1	2.3	50.5	2.6	2.3	1.2	3.2	100.0	288
Some primary	7.3	15.9	10.7	4.5	4.1	50.2	2.3	2.0	1.5	1.6	100.0	302
Completed primary	8.1	17.4	8.9	5.3	2.1	50.0	2.8	2.1	1.5	1.9	100.0	808
Attended secondary or higher	18.5	20.9	10.8	6.2	4.5	24.1	4.6	2.3	3.8	4.4	100.0	180
Wealth tercile												
Low	6.5	17.6	8.8	4.9	2.2	51.2	3.1	2.3	1.2	2.2	100.0	571
Middle	6.8	19.8	10.2	4.4	2.4	50.6	2.1	1.1	0.6	2.1	100.0	459
High	13.9	15.9	9.2	5.2	3.7	40.1	3.3	2.8	3.1	2.8	100.0	548
Total	**9.1**	**17.7**	**9.4**	**4.8**	**2.8**	**47.2**	**2.9**	**2.1**	**1.7**	**2.4**	**100.0**	**1,578**

Source: 2016 Kigoma Reproductive Health Survey.
[a] Eight cases of rape/incest removed from analysis.
[b] Includes "did not know where to get contraceptives", "could not get a method/not available," "other."
[c] Fewer than 25 cases.

Appendices

Results from the Tanzania Maternal and Reproductive Health Partners Meeting.

On January 17th and 18th of 2017, the Bloomberg Foundation convened a meeting in New York City to prioritize activities in Kigoma Tanzania for the final phase of reproductive health program activities (May1, 2017 – April 30, 2019). Breakout groups at the meeting used data from the 2016 Reproductive Health Survey, the 2016 Client and Provider survey, and maternal and perinatal outcome surveillance data to produce recommendations and to adjust and prioritize targets for the next four years. The following factsheets incorporate the partner group recommendations for each priority with the recent data findings.

Participants in the meeting were the following organizations: Bloomberg Philanthropies, Fondation H&B Agerup, Blue Lantern Foundation, Thamini Uhai, Vital Strategies, EngenderHealth, Centers for Disease Control and Prevention, Global Health Advocacy Incubator, and Columbia University's Population and Family Health Department.

Appendix A: Fact Sheet on Key Data for Family Planning Priorities, January 2017

Fact Sheet on Key Data for Emergency Obstetric & Neonatal Care (EmONC), January 2017

Project Target	*Progress*	*Ability to Reach Target*
Increase modern **contraceptive prevalence rate among women in union** from 16% to 28% by May 2019 *Percentage of women in union who report to currently use a modern contraceptive method*	2014: 16% 2016: 20% *Target: 28%*	If the modern contraceptive prevalence rate (CPR) among women in union increases at the same rate since 2014, it is unlikely the CPR will reach 28%. The increased use of long-acting reversible contraception (LARC), like IUDs & implants, can effectively increase the modern CPR; women who start using these methods *now* would theoretically *still* be using these methods 3–10 years from now.

Key Findings from the Data	*Implications for Programs*
Priority 1: Integrate family planning (FP) services into non-FP services	
• **Over one in three of women in union have an unmet need for family planning** (RHS 2014, 39%; RHS 2016, 37%); they are *able* to get pregnant but do not *want* to get pregnant & are not currently using contraception. • **FP counseling was minimally received at the time of delivery & during postpartum check-ups**; women who said they received FP counseling during their recent pregnancies most commonly said they received counseling during antenatal care (ANC). • **Distribution of FP supplies during delivery & post-abortion care (PAC) is low.** 11% of delivery clients & 27% of PAC clients said they received an FP method or prescription.	Very few women receive a FP method or prescription during delivery, post-abortion, & postpartum visits. These are missed opportunities to provide FP counseling to care-seeking women, especially those who are known to be at risk of getting pregnant again (e.g., pregnant, postpartum, & post-abortion). Integrating FP counseling & services into non-FP visits may increase the CPR & met need by reaching women who may not otherwise actively seek out FP services.
Priority 2: Increase outreach service days & community-based education & messaging	
• Among women in union who are able to get pregnant & are not using contraception, **the most common reason for not using contraception was a fear of side effects** (RHS 2014, 23%; RHS 2016, 24%). The second most common reason was a desire to get pregnant (RHS 2014, 23%; RHS 2016, 20%). • **About half of women say they do not know whether each type of modern contraceptive method is safe or effective.** The percentage of women with this response increased since 2014, whereas the percentage of women saying that these methods are not safe & not effective decreased.	Outreach service days may be the only opportunity some women have to interact with a provider. Thus, it is critical to provide accurate & comprehensive information in outreach education & messaging, especially information that addresses rumors or fears. All counseling – whether during outreach days or in the facility – should dispel rumors about FP methods & provide information on safety, effectiveness, & common side effects.
Priority 3: Increase capacity of government trainers to train providers in FP counseling & practice	
• **Far fewer women in union currently use a modern method** (RHS 2014, 16%; RHS 2016, 20%) **than know of at least one modern method** (RHS 2014, 96%; RHS 2016, 98%)**.** • **Not all FP clients said their provider counseled them** on side effects (74%), use of method (75%), & managing problems (77%). • Between one-fifth & one-fourth of providers said that the **client's number of children influences their offering of injectables** (27%) **& IUDs** (20%). Half of providers said that the client's number of children influences their offering of tubal ligation (52%).	Training materials should provide clear & comprehensive instructions on standard FP care elements. Trainings should prepare providers to feel competent & confident in providing methods, especially insertion of implants & IUDs. Trainings should also establish a zero-tolerance policy for allowing providers' biases to influence how & whether they provide FP counseling & services.
Priority 4: Train administrators & providers in forecasting needs & filling out order forms for FP commodities	
• **Injectables are most commonly used** among women in union who currently use a modern method (RHS 2014 & 2016, 9%)**.** • **Implants are the second-most commonly used method** with use increasing since 2014 (RHS 2014, 2%; RHS 2015, 5%). • **Very few women in union report to use the IUD** (RHS 2014 & 2016, less than 1%). • Women using injectables & implants most commonly report to **obtain supplies from dispensaries.**	Anticipating needs for FP supplies & ordering them through the Medical Stock Department can help eliminate stock-outs, especially in dispensaries, where most contraceptive-users obtain supplies. Being aware of commonly used methods (injectables & implants) can be useful in forecasting supply needs. Inquiry into why some methods are rarely used (IUDs) should assess whether this is due to clients' preference, providers' ability, or stock-out.

Appendix B: Fact Sheet on Key Data for Emergency Obstetric & Neonatal Care (EmONC), January 2017

Fact Sheet on Key Data for Family Planning Priorities, January 2017

Project Target	*Progress*	*Ability to Reach Target*
Increase **met need for EmONC** to 60% by May 2019 *Proportion of women receiving EmONC services for serious obstetric complications among those expected to experience severe pregnancy complications*	2011: 43% 2012: 43% 2013: 44% 2014: 50% 2015: 48% *Target: 60%*	Met need for EmONC increased since 2011, with a slight decrease between 2014 & 2015. The target may be attained by 2019 if existing EmONC facilities continue to perform life-saving signal functions consistently & safely. Ensuring that facilities that cannot perform certain signal functions quickly identify complications & refer patients to EmONC facilities is also critical to attaining the target for met need for EmONC.
Increase **skilled birth attendance** (SBA) to 75% by May 2019 *Proportion of all births delivered by health provider with credentials to provide delivery care. To approximate SBA, we use **facility-based delivery** – the percentage of births in a population that occur in a health facility.*	2014: 47% (CI: 42–53%)* 2016: 60% (CI: 54–65%)* *Target: 75%*	The proportion of births occurring in health facilities is increasing. The target may be attained by 2019 if women's birth preparedness, sensitization of facility-based care, & access to facilities are improved.
**Confidence interval (CI) = If we repeatedly calculated the facility-based delivery rate using the same approach (i.e., new interviews with new sample of women), the value would fall within the range in parentheses 95% of the time.*		

Key Findings from the Data	*Implications for Programs*
Priority 1: Expand referral model to Kakonko, Mabamba, Nyanzige, & Ilagala	
• In an ideal scenario with access to any transportation, **one-third (32%) of estimated live births in Kigoma's population would not reach EmONC facilities within 2 hours**. Kakonko, Kibondo, & Uvinza have the greatest need for access to EmONC facilities. • **A larger percentage of women who delivered by Cesarean section reported to travel 2 or more hours** (RHS 2014, 37%; RHS 2016, 28%) than those who did not have a C-section (RHS 2014, 19%; RHS 2016, 16%). • All hospitals & most health centers said they receive referred patients from other facilities. **Two-thirds of hospitals (4 of 6) & only half of health centers (13 of 25) reported that they have systems in place to triage patients referred to their facility.** • **More than half of non-EmONC health centers do not benefit from ambulance transport** available in nearby EmONC facilities.	Distance to care can influence a woman's decision to deliver in a facility & affect her access to timely life-saving treatment. Many Kigoma women needing delivery cannot access EmONC facilities within 2 hours, even if they use motorized transportation. Transportation is indeed critical. It is essential, though, that the first facility a woman reaches can perform lifesaving EmONC interventions or have a system for referring her to an EmONC facility. A referral system should include a protocol for triage, determining the need to refer, stabilizing patients prior to referral, & communicating with nearby EmONC facilities.
Priority 2: Introduce data quality mentorship	
• **New versions of the labor & delivery (L&D) register require providers to record more & different information than the previous version.** As a result, data in these registers can be inconsistent, incomplete, & inaccurate. • **New L&D registers do not have a place to indicate whether & when a neonatal death occurred.** This could cause neonatal deaths to be underreported. • **Indication of mother's status at discharge & whether specific EmONC signal functions were performed are frequently missing or recorded incorrectly in new L&D registers.** The actual number of maternal deaths could be misrepresented. Errors in recording of signal functions could cause underreporting of complications & met need, as well as misclassification of a facility's EmONC status.	Good quality data are the foundation for evidence-based decisions. Good data enable us to set realistic goals & improve program & resource management. Facility-based training on the new L&D registers should encourage staff to complete all columns of the L&D register, use defined & standardized terminology, & record particular variables accurately & consistently. Supportive supervision should address record-keeping issues. Data quality mentorship should focus on all facility registers, including L&D.

***Priority 3**: Conduct onsite training & mentorship to improve routine care, including complications, management, & supervision*	
• In 2015, **nearly half (48%) of women who were expected to experience severe complications were treated for those complications**. • In 2015, **1.6% of women with direct obstetric complications died in facilities**. The maximum international standard is 1%. • **Neonatal mortality has doubled since 2011** from 6 to 12 neonatal deaths per 1,000 live births. • **Performance of most basic EmONC signal functions is high in all project-supported health centers, except for manual removal of placenta (MRP).** As of January 2016, only 1 of 11 project-supported health centers recently performed MRP. • **EmONC availability has improved, but the overall regional EmONC availability does not yet meet international standards.** Kigoma currently has 12 EmONC facilities when it should have 21 EmONC facilities for its population size. • **Providers received low scores on average for knowledge tests on complications & partogram use.** Very few providers also say that have recently received training in critical labor & delivery care, including partogram use, active management of the third stage of labor, MRP, administration of intramuscular magnesium sulfate, & application of vacuum extractors.	Kigoma has just over half of the needed number of EmONC facilities required for its population size. Over half of women with obstetric complications did not receive treatment for those complications. EmONC facilities should maintain their EmONC status through mentorship on & practice of signal functions & other elements of labor & delivery care. Many health centers perform some but not all signal functions & are thus not classified as EmONC. Women with complications may go to a health center first before ever going to a hospital; it is critical that health centers can perform all basic EmONC signal functions confidently & competently. Mentorship should include low-technology, simulation-based EmONC practice to increase confidence & ensure skills are maintained.
***Priority 4**: Address human resources gap by recruiting retired midwives & assistant medical officers (AMOs)*	
• **Medical positions in Kigoma are severely understaffed.** Of designated positions for the region, only 60% of positions for OB/GYNS & surgeons, 19% of positions for non-specialized medical doctors & medical officers, & 58% of positions for AMOs are occupied. • **There is also a gap in available nurses & midwives**; 91% of designated positions are currently occupied. The distribution of nurses & midwives in facilities may also be uneven (i.e., some facilities have too many nurses & midwives, whereas other facilities have few or none). • **Providers who are not trained to provide delivery care, such as nursing/medical assistants & attendants, are broadly available in health facilities & are providing delivery care.** In low-level facilities, they may be the only cadres providing care.	To address the shortage of trained clinical personnel & improve coverage of skilled maternal health care, retired midwives & AMOs should be recruited to serve in dispensaries & health centers with the greatest need. These midwives & AMOs may also mentor nursing/medical assistants & attendants.
***Priority 5**: Ensure availability of supplies for signal functions & sanitation*	
• **Essential drugs for eclampsia are not always available.** Less than half of health centers (48%) & only one-sixth of dispensaries (15%) had antihypertensive drugs. Most health centers (92%) & dispensaries (90%) had supplies of Diazepam. • **Blood transfusion indicators in hospitals & health centers are improving.** Compared to 2013, the 24/7 availability of blood improved in hospitals & health centers, as did facility capacity to type & match blood. Refrigerators for blood storage remained available in all hospitals & increased in health centers from 2013 to 2016. The availability of standard operating procedures for typing & cross-matching improved only in hospitals.	Understanding drug shortages can help facilities forecast needs & properly order needed supplies, especially for preventable obstetric complications. As acute blood loss is one of the main causes of maternal mortality, ensuring the availability of blood & capacity to store, type, match, & transfuse blood is essential.

[i] The United Republic of Tanzania National Bureau of Statistics (NBS), Office of Chief Government Statistician. *Population Distribution by Age and Sex*. Dar es Salaam, Zanzibar, Tanzania: NBS, Office of Chief Government Statistician; 2013.